New Army Locomotive Will Go Anywhere

December 2, 1957

RAILWAY AGE *weekly*



Free meals ↑ pay their way on UP

How One Road Plugs Industrial Development

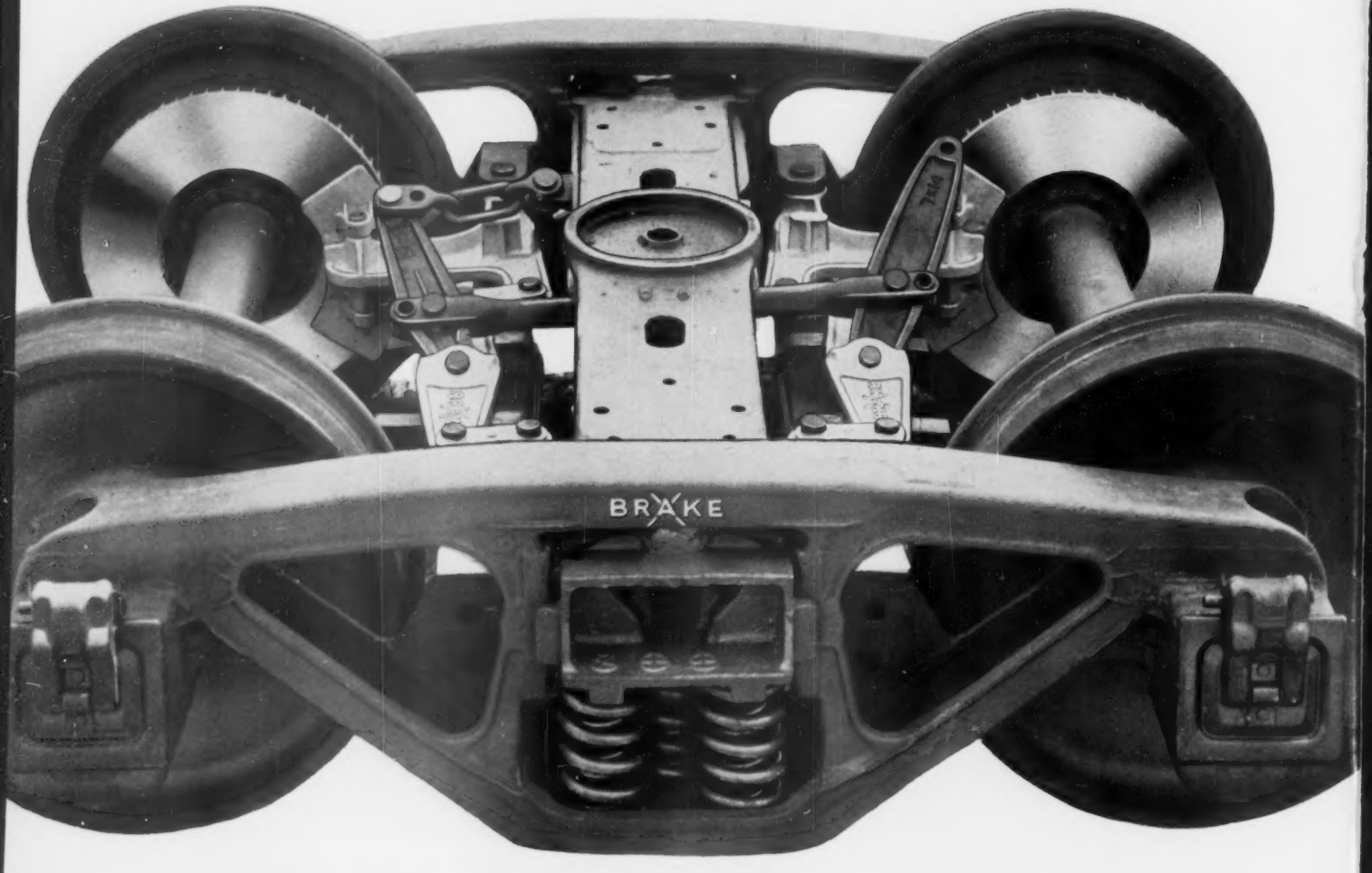
50 cents A Simmons-Boardman TIME SAVER Publication

THE DISC BRAKE IS THE ONLY BRAKE TO PERMIT THE FULL UTILIZATION OF THE TREMENDOUS POTENTIAL OF MODERN MOTIVE POWER . . . . . BRAKE-X IS THE ONLY DISC BRAKE APPROVED FOR USE ON FREIGHT CARS OF ALL TYPES AND CAPACITIES.

BUFFALO BRAKE BEAM COMPANY

First with the Newest in Freight Car Braking

NEW YORK **BUFFALO** **HAMILTON, ONT.**





You get 'em fast from Bethlehem

Whether you need spikes, track bolts, frog bolts or switch bolts, you can count on getting the styles and sizes you want —and getting them fast—when you order from Bethlehem. We keep huge stocks of railway fasteners on hand for quick delivery. And we can produce large quantities of non-stock items on short notice.

And that's not all. Bethlehem also makes a complete line of screw spikes, timber bolts and car bolts, as well as "specials" for use in bridges and trestles—in fact, just about everything in fasteners. Call us about your bolting requirements.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation



BETHLEHEM STEEL

The Engineer's Field Report

CASE HISTORY

PRODUCT Chevron Starting Fluid

FIRM Great Northern Railway, Havre, Montana

Special fluid starts 250-ton crane instantly, saves time in emergencies—even at 50° below





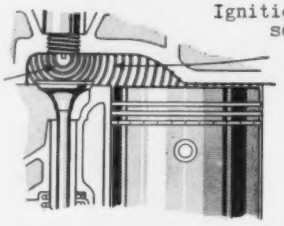
GREAT NORTHERN RAILWAY'S 250-TON, RAILROAD CRANE (above) starts instantly with Chevron Starting Fluid in temperatures ranging to 50° below zero—even after standing idle for months at a time. Former steam-powered wrecker equipment took crew 12 hours to start. This crane with its two 174 h.p. Cummins diesel engines is now available for derailment emergencies on short notice.

"Slow-grind starts on battery power alone waste too much valuable time. Chevron Starting Fluid fires these engines 'right now'—in any weather." A Great Northern engineer shows how simple it is to insert 7CC gelatin capsule of Chevron Starting Fluid in unit's air-intake system. Fluid is also available in 17CC capsules and 1-pint cans.

Why Chevron Starting Fluid starts engines instantly

Highly volatile: 7 times more than gasoline

Ignition temperature several hundred degrees lower than diesel fuel



Contains wear-reducing lubricants

Additives inhibit ice formation

CHEVRON STARTING FLUID

FREE FOLDERS tell more about the Chevron Starting Fluid and Chevron Pressure Primer System. Write or ask for them.

FOR MORE INFORMATION about this or other petroleum products of any kind, or the name of your nearest distributor, write or call any of the companies listed below.

TRADEMARK "CHEVRON" AND DESIGN REG. U. S. PAT. OFF.

STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20
THE CALIFORNIA OIL COMPANY, Perth Amboy, New Jersey

STANDARD OIL COMPANY OF TEXAS, El Paso
THE CALIFORNIA COMPANY, Denver 1, Colorado

RAILWAY AGE *weekly* December 2, 1957 • Vol. 143, No. 23

Week at a Glance

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Santa Fe 'thumbs up' passenger service ..... p. 9

Profitable passenger traffic is available for the seeking, AT&SF general passenger traffic manager tells press conference. His road spends three-fourths of its advertising budget to promote passenger services. "El Capitan" has done "a wonderful job" of maintaining passenger revenues, he reports.

Why the C&NW built potato men a new home p.14

Because the potato commands a high revenue rating on the North Western, the road has made life easier for the men who make that revenue possible—the potato brokers. A new office building and improved communications, provided by the C&NW, have enabled the brokers to centralize their operations.

New Army locomotive will go anywhere p.18

General Electric is building a compact universal 975-hp prototype diesel unit for worldwide service on narrow-gage railroads. The locomotive, designed to Transportation Corps specifications, may, after its completion, be delivered to the Denver & Rio Grande Western to undergo field tests.

How one road plugs industrial development p.23

To attract new industry and to expand existing industry, practically all railroads have embarked on some kind of industrial development program. Such programs usually involve two major steps: Gathering data on what the railroad and its on-line communities have to offer, and "selling" those offerings to industry. Here's how a medium-size railroad—the Chicago & Eastern Illinois—goes about the job.

Free meals pay their way on the UP p.43

The road's experience with the General Motors "Aerotrain" proved to management that a relatively short-haul train can be a profitable venture where there is a traffic potential—if it is merchandised properly. N. E. Luthi, the road's general passenger agent at Los Angeles, has given a comprehensive report of how "Aerotrain" fared on the UP.

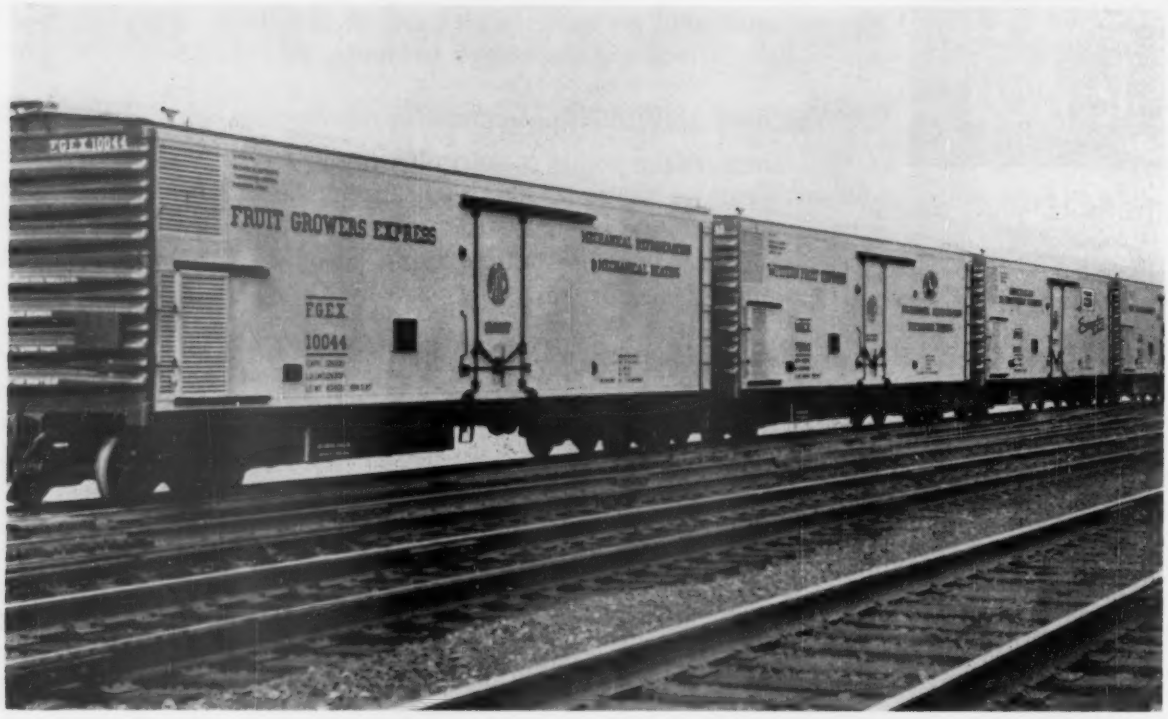
New purchasing techniques mean faster stock work p.48

Consolidation and streamlining of purchasing procedures have given the Chicago & Illinois Midland an inventory control system "more accurate than any previously achieved." The road considers itself to be in "unusually poor shape" if its inventory of stocked materials is as much as 0.5% off count.

Railroad 'state' under Senate scrutiny p.54

The "deteriorating railroad situation and its effect on the national transportation picture" will be the subject of hearings in

MORE THAN 1200 BRE-FGE-WFE MECHANICALLY EQUIPPED REFRIGERATOR CARS ARE NOW IN SERVICE...



THESE CARS, WHICH REFLECT THE LATEST ACHIEVEMENT IN THE RESEARCH AND DEVELOPMENT OF REFRIGERATOR CARS, EMBODY THE LATEST DEVELOPMENT IN DOORS—YOUNGSTOWN SLIDING FLUSH DOORS FOR REFRIGERATOR CARS

THE YOUNGSTOWN STEEL DOOR CO.

CAMEL COMPANY LIMITED • CAMEL SALES COMPANY

Cleveland • Chicago • New York • Youngstown

Week at a Glance CONT.

Current Statistics

Operating revenues, nine months	
1957	$7,909,421,720
1956	7,824,822,128
Operating expenses, nine months	
1957	$6,180,350,497
1956	6,027,733,256
Taxes, nine months	
1957	$827,403,872
1956	831,431,170
Net railway operating income nine months	
1957	$699,477,372
1956	744,662,636
Net income estimated, nine months	
1957	$538,000,000
1956	612,000,000
Average price 20 railroad stocks	
November 26, 1957	65.64
November 26, 1956	95.43
Carloadings revenue freight	
Forty-six weeks, 1957	32,092,443
Forty-six weeks, 1956	33,801,189
Average daily freight car surplus	
Wk. ended Nov. 16, 1957	19,032
Wk. ended Nov. 17, 1956	4,452
Average daily freight car shortage	
Wk. ended Nov. 16, 1957	218
Wk. ended Nov. 17, 1956	7,069
Freight cars on order	
November 1, 1957	65,718
November 1, 1956	122,250
Freight cars delivered	
Ten months, 1957	84,639
Ten months, 1956	53,007

•

Advertising Sales Department

Duane C. Salisbury—vice-president, director of sales

New York 7, N. Y., 30 Church st., WOrth 4-3060
J. S. Vreeland—vice-president; F. T. Baker—district manager; W. E. Glasby; J. C. Lyddy
Chicago 3, Ill., 79 W. Monroe st., RAndolph 6-0794
J. R. Thompson—vice-president; J. W. Crossett—district manager; J. D. Dolan—district manager; W. J. Gatenby
Cleveland 13, Ohio, Terminal Tower, MAin 1-4455
H. H. Melville—vice-president; C. J. Fisher; H. M. Blunt
Philadelphia, Pa. (Jericho Manor, Jenkintown, Pa. TUrner 7-4526)
W. E. Glasby—district manager
Pittsburgh 19, Pa., 530 Sixth ave., GRant 1-8186
C. J. Fisher—district manager
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Dallas 19, Tex., 3908 Lemmon ave., LAkeside 2322
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January. The hearings will be held by the Surface Transportation subcommittee of the Senate Committee on Interstate and Foreign Commerce and witnesses will not be limited in subject matter to be covered.

The Action Page—Washington is waking up p.66

The idea that railroads are a monopoly, no less a superstition than witchcraft, is on the way out. Railroads have been slow in giving heed to the adage that "the wheel that squeaks the loudest gets the grease." All other wheels of transportation, because they squeaked louder, have had all the government attention. But things are beginning to change.

Short and Significant

Legislative proposals for user charges . . .

on facilities provided by the federal government and fees for government services have been called for by the Bureau of the Budget. The call went to all executive agencies, including the ICC and others concerned with transport facilities. It asked that the legislative proposals be submitted by February 1, 1958, and that they be designed "ultimately to recover full costs" for the government.

Piggyback containers . . .

are coming back into vogue if current interest is any indication. Look for an announcement of a committee of railroads, truck and ship lines and supply companies which currently are studying a universal container.

PRR-NYC merger studies . . .

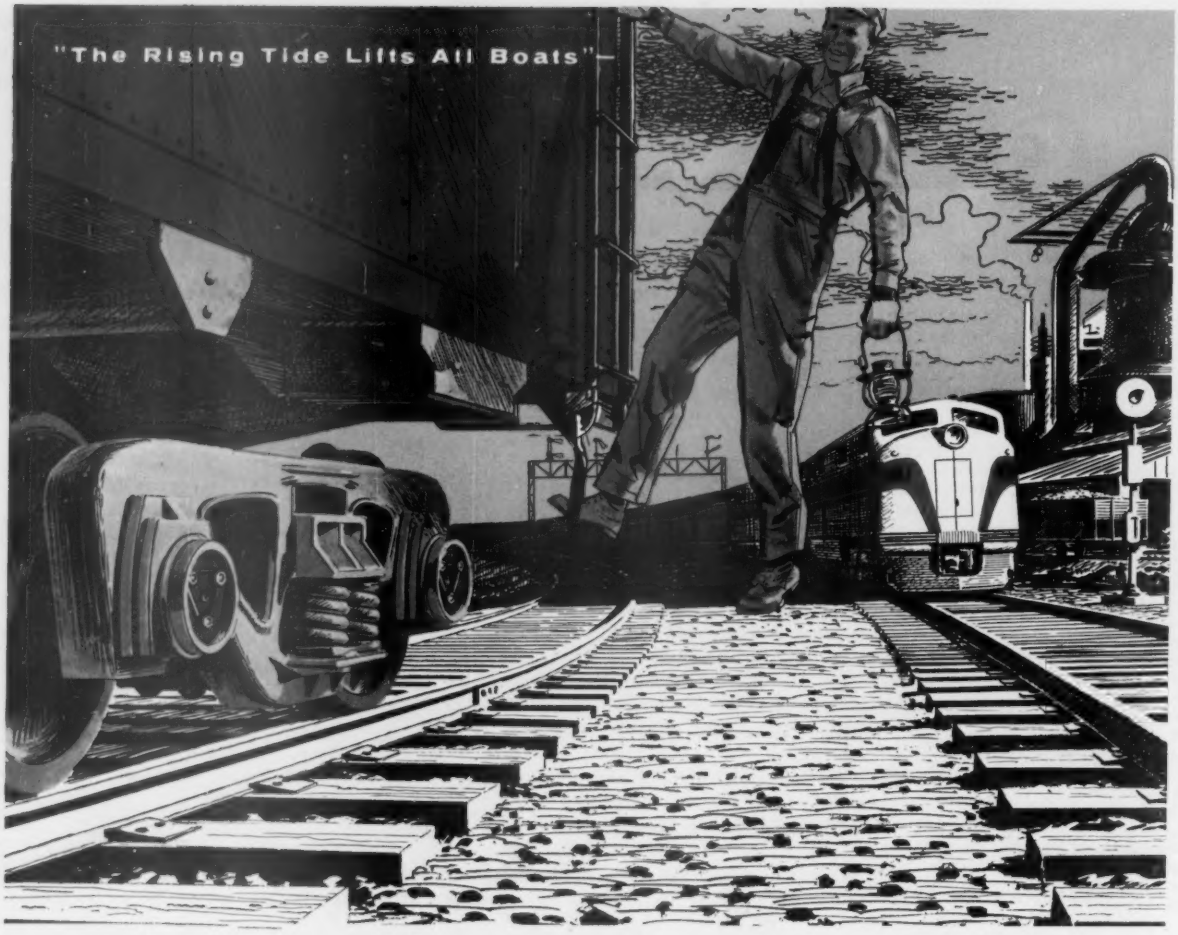
have been started by a committee of executives and specialists from the staffs of the two roads. John B. Morris, general manager of transportation, is the chief PRR representative. Though names of NYC personnel on the committee have not been announced, that road's New York district general manager, J. C. Kenefick, is engaged in a special system study.

All AAR officers were reelected . . .

by the board of directors at the group's annual meeting. Railroad presidents just added to the association's board of directors are Walter J. Tuohy of the Chesapeake & Ohio, Ben W. Heineman of the Chicago & North Western, and Harry C. Murphy of the Burlington.

A 3,372-car gain . . .

in the serviceable fleet of Class I railroads was achieved in October. Latest reports to the AAR's Car Service Division show that this was the result of a 3,278-car gain in ownership and a 94-car reduction in the bad-order backlog. The November 1 fleet of serviceables was up 20,000 cars from that of November 1, 1956.



EVERY ROLLER BEARING FREIGHT CAR HELPS ALL AMERICA'S RAILROADS—TO GIVE YOU BETTER LIVING!

Where you find a big plant, you'll find a railroad track. Despite the highways and the skyways, steel wheels rolling on steel rails are still the foundation of America's productivity . . . and the prosperity of every citizen.

The billions our railroads have invested in modern equipment have steadily shortened the gap between producer and consumer. Now the "Achilles' heel" of fast freight . . . the old friction bearing so susceptible to hotboxes . . . is being eliminated by a new low-cost roller bearing that soon pays for itself in operating economies.

HYATT Hy-Roll Bearings have proved they are the answer to the hotbox in millions of troublefree freight car miles. They speed up deliveries, end the excessive financial burden of friction-bearing inspection, lubrication and maintenance . . . and they increase the earning power of cars by keeping them on the go. That's why every new car equipped with HYATT Hy-Rolls helps *all* railroads . . . and through them, helps *you*. Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.



Another GM GENERAL MOTORS contribution to railroad progress

45,500,000 MILES WITHOUT A SINGLE HOTBOX!

Since May, 1955, 500 Railway Express Agency express-refrigerator cars have totaled more than 45 million car miles on HYATT Hy-Rolls without a bearing failure of any kind.



1908–1958 GM FORWARD FROM FIFTY

HYATT HY-ROLL BEARINGS
FOR NON-STOP FREIGHT

RAILWAY AGE
The Industry's Newsweekly

Santa Fe 'Thumbs Up' Passengers

Profitable passenger traffic is available for the seeking, says AT&SF general passenger traffic manager; road spends three-fourths of advertising budget to promote passenger services.

A note of outspoken optimism about the passenger business has been sounded by the Santa Fe.

The optimism—flying in the face of what many observers believe to be an industry-wide pessimism—implies that some other western railroads also think the passenger train is here to stay.

R. T. Anderson, Santa Fe's general passenger traffic manager, called a press conference recently in an unusual location: his road's Chicago commissary. His mission obviously was to separate his policies in the public's mind from those of railroads which apparently have turned thumbs-down on large segments of the passenger market.

In brief, Mr. Anderson said that:

Santa Fe's passenger business in 1957 probably will end up about 5% below what it was in 1956. But, he said, "we like to think there's still some optimism in the passenger business, particularly among western lines."

Rising costs, however, are giving even the most aggressive passenger carriers a rough time—and, in the case of the Santa Fe, are forcing consolidation of the road's two most famous trains during off-peak months.

Profitable passenger traffic is available—at least under some circumstances—for those railroads that look for it.

Santa Fe's passenger business—like that of many roads—has fallen off markedly since summer. Mr. Anderson attributes his road's decline to three factors: (1) a lower level of military traffic; (2) the flu epidemic—"we've canceled a good many weekend football specials because of the flu"—and (3) a sharp drop in passengers received from eastern connections at Chicago—business which ordinarily amounts to 25% of Santa Fe's total.

About the time travelers began to feel the effect of the 15% increase in first-class fares granted to some eastern roads last May, Santa Fe's business began to falter. Patronage in the New York and Washington sleepers handled to California on the "Super Chief" dropped by 338 passengers in one month, Mr. Anderson recalled.

In an attempt to reduce train-miles and keep costs in line, Santa Fe is seeking permission to combine its "Super Chief" and "El Capitan" into one train during slack winter and fall months, beginning next January 12. The trains would retain their present consists, except that "El Capitan" would be reduced to five "Hi-Level" coaches instead of seven. Feature cars such as diners and lounges all would be continued; passengers from one train would have no access to the other. Santa Fe can save about $3.5 million a year through this consolidation, Mr. Anderson believes.

The "Hi-Level El Capitan" has "done a wonderful job" of maintaining passenger revenues in a declining market, Mr. Anderson said. The train increased in patronage 12% this summer instead of an anticipated 20%, but he pointed out that the same factors which have held down passenger business in general have affected "El Capitan."

Six weeks' intensive advertising of "El Capitan's" features and lower-than-air fares prompted Mr. Anderson to declare: "If some of these other railroads could only see what we've seen, they'd realize that the business is there if they'd only go after it!"

For six weeks, largely in Chicago-area newspapers, Santa Fe advertisements made direct comparisons between air coach fares and "El Capitan" fares—including extra fare—to California. The



CNR Opens First Section of Chibougamau Line

Unexpected item in the recent ceremony marking formal opening of the 161-mile line constructed by the Canadian National between Beattyville, Que., and Chibougamau was a guard of honor provided by Indians in full tribal regalia. Donald Gordon (right), CNR president, is shown chatting with Gabriel Curtness, a chief of the Montanee tribe. At Mr. Gordon's right is J. E. Gauthier, general superintendent of the CNR's Central region. The line, built to speed development of the Chibougamau region's vast mineral and other resources, is the first section of a 294-mile loop. The second and final section, from St. Felicien in the Lake St. John area to Chibougamau, is under construction.

campaign grew out of the discovery by Leo Burnett Company, Santa Fe's agency, that citizens responding to a "curbstone survey" generally believed air coach rates to be lower than rail coach rates.

Cash sales of "El Capitan" tickets in Chicago were boosted 56% as a result of the campaign, Mr. Anderson said. Similar advertising campaigns currently are under way in Los Angeles and Houston, again aimed at coach travelers.

Santa Fe's advertising manager, A. A. Dailey, told the press conference that the road has been spending $1.8 million a year—three fourths of its advertising budget—to advertise passenger services. "We'll continue to do so," he declared.

Mr. Anderson followed through on his optimistic tone with these items:

- Rail Travel Credit Cards: "We found that there are only about a third as many free rail credit cards issued as there are air credit cards you have to pay for!" (He presented a rail card to each person at the conference.)
- Pending air fare increases: "We're all praying for the day the airlines get their full 20%!"
- The job of "selling optimism" to the passenger fraternity: Mr. Anderson is president this year of the American Association of Passenger Traffic Officers. He hinted strongly that during his tenure aggressiveness in the passenger business will be the byword.

Watching Washington *with Walter Taft*

- **RAILROAD PILOT PLANT** is what one informed traffic man calls the Interstate Commerce Act's Section 22. He notes that pricing freedom which the section accords on government traffic permits carriers to try out any kind of rate innovation. He concedes that such experimentation would involve risk of making some mistakes, but he points out that any errors would be confined to a limited field. Prospective gains are more government traffic and "valuable experience in new pricing methods."

- **SECTION 22 BUSINESS IS LOST** many times because railroad quotations are "a day late and a dollar short," this traffic man says. He also thinks that railroads have too often been content to get some of the traffic involved in a Section 22 movement, when they could get it all by aggressive action.

- **TRUCKER ROLE OF "CREAMER"** has been pointed up again by figures indicating that the motor carriers' ton-mile "take" last year was more than four times the rail average. The ICC's Bureau of Transport Economics and Statistics has calculated that common and contract truckers then got a weighted average of 5.9 cents per ton-mile while railroads were collecting only 23.4% as much—1.38 cents.

- **THE SPREAD** has increased during the past three years, the railroad averages of 1954 and 1955, respectively, having been 24.8% and 24% of the truck figures. On the index-number basis, with 1942 averages as 100, the 1956 index for the truckers' ton-mile revenue was 157.8 The rail index was nearly 10 points lower—148.5.

- **NEW RAILROAD CONSTRUCTION** put in place next year is expected to be off 11% from the current year—$400 million, compared with $450 million. That's the prospect at this time, as set out in a joint estimate made by the Departments of Commerce and Labor. The estimators point out, however, that this outlook must be interpreted in light of the fact that railroad construction has recently been at a high level, and that the estimated 1958 outlays would still be "more than one-third above" expenditures of four years ago.

- **MORE THAN $9 BILLION** will be the country's 1957 expenditure on highways. The Bureau of Public Roads puts the prospective outlay at $9,098 million, including capital expenditures of $5,770 million and $2,044 million for maintenance. Estimated highway receipts total $8,731 million, of which "user imposts" will supply less than half—$4,237 million. More than one-third as much, $1,330 million, will come from property taxes and general revenues.



'Pacifico' Opens for Business

A newly rehabilitated railroad with 1,100 miles of 100-lb rail links Nogales, Ariz., with Guadalajara, in the Mexican state of Jalisco. The Ferrocarril del Pacifico—part of a program to revamp the economy and help tap the riches of northwest Mexico—was officially inaugurated last month. Present at the ceremonies in Hermosillo, Sonora, were (left to right, in the foreground), Alvaro Obregon, governor of the state of Sonora; Adolfo Ruiz Cortines, President of Mexico; and Benjamin Mendez, general manager of the line.

Shippers Put Reliability Ahead of Speed

Industrial traffic men put far more stress on dependable freight service—service that keeps its promise—than they do on speed.

Their thinking is pointed up in replies to a poll prepared by Railway Freight Traffic, companion to Railway Age.

Sixty out of 70 shippers who participated in the poll agree that what they want is not so much speed as reliability. Speaking for companies that produce everything from basic metals to baby food, these traffic men say they want schedules that can be met, door to door, rather than fast over-the-road service which is subject to irregular terminal delays.

Sixteen traffic managers in the group say they would not consider *any* deviation from schedule as "reliable." Others, though, are willing to make allowances for circumstances beyond a carrier's control. The leeway most often mentioned is 10%—about 2 hours on a 24-hour schedule, 8 hours on 3 days, 1 day on 10 days.

The traffic manager for a chocolate company said: "If carriers cannot maintain schedules within a 10% tolerance most of the time, they should reevaluate their performance and make schedules more realistic." A few shippers would permit delays up to as much as 40% in allowing for weather and unusual operating difficulties.

"Reliability itself is the only thing on which you can set up and maintain a smooth operating schedule," a grain company traffic manager stated. "Of what use is a fast schedule from origin to destination if you then suffer extensive delays in getting the cars to your warehouse?" To several traffic men, reliability means not only good road schedules but meeting con-

(*Continued on page* 54)

NEW HUSTLE FOR '58 . . . CHEVROLET LIGHT- AND MEDIUM-DUTY HAULERS



More horsepower . . . more staying power in V8's and 6's!

New Chevrolet light-duty Apache and medium-duty Viking models bring you V8's and 6's that deliver more horsepower, more economical and dependable hauling for the toughest jobs you've got!

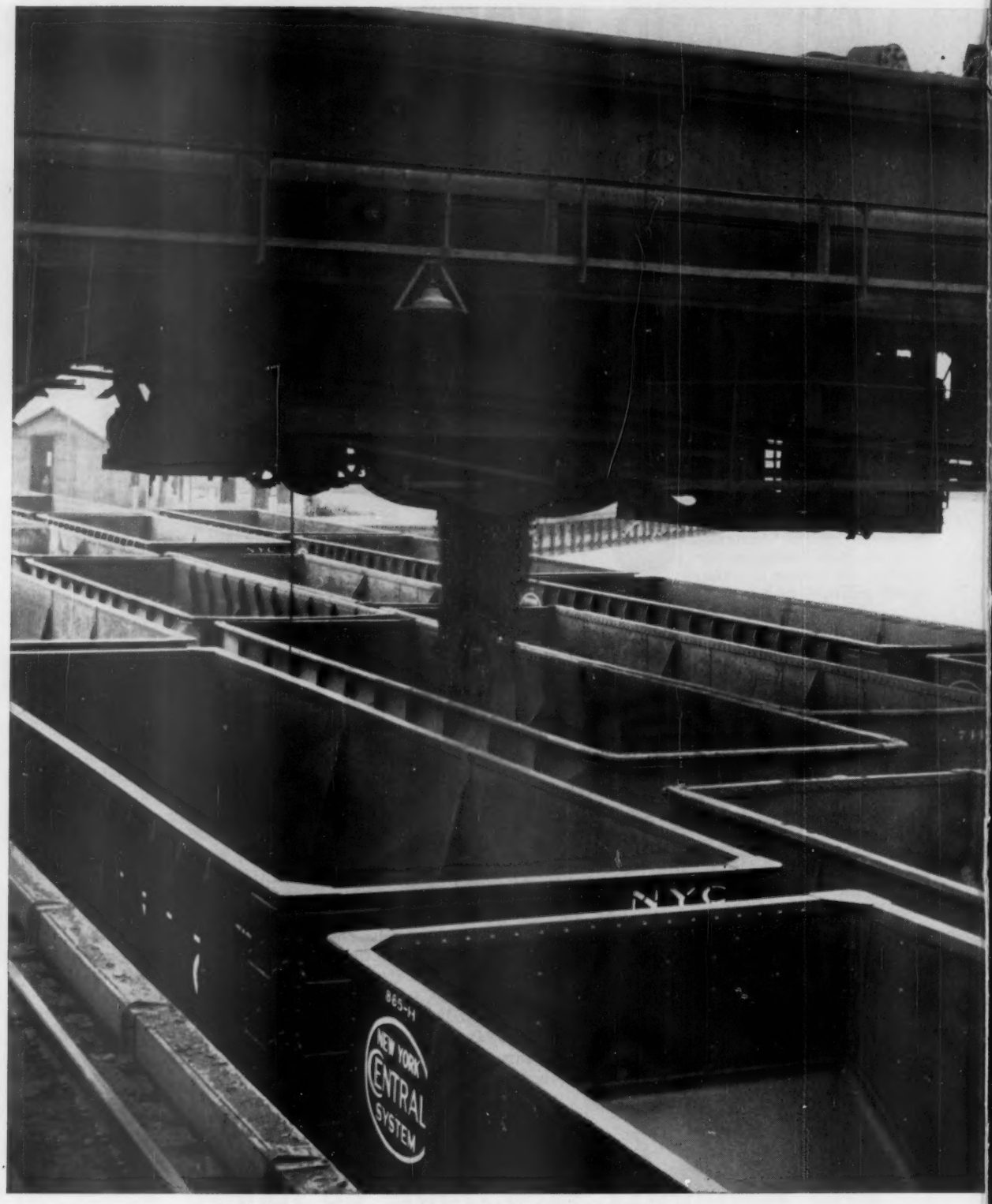
There's new standard power in every light-duty model . . . a more powerful (145 h.p.!) edition of the engine most famous for economy and dependability, the rugged Thriftmaster 6. And the optional (extra-cost) Trademaster V8 is *all new*, the most highly powered light-duty truck engine in Chevrolet history! It's ready to go to work with 160 h.p., 283 cubic inches of displacement, short-stroke efficiency and weight-saving compactness!

Chevy for '58 is here with new medium-duty power, too! Standard in Series 50 L.C.F. models is a new version of the Heavy-Duty Taskmaster V8, with 160 h.p. for fleet hauling and new durability features such as Stellite-faced exhaust valves and induction-hardened exhaust valve seats. And standard in Series 60 models is the time-proved Jobmaster 6 with more power than ever—150 h.p.—and a host of new features that mean more economy and dependability on jobs that work a truck hard. See your Chevrolet dealer and *save* with Chevy's new brand of hustle! . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

Latest editions of the "Big Wheel" in trucks

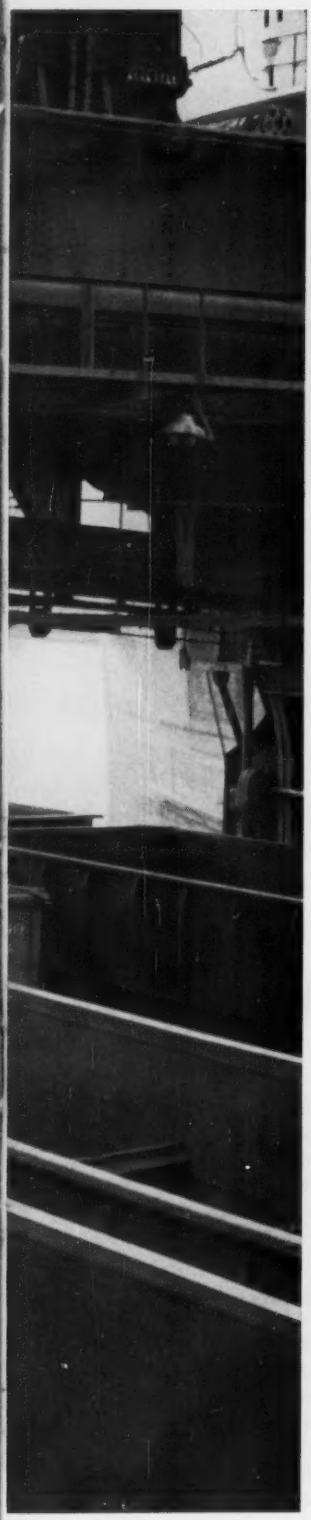
NEW CHEVROLET TASK·FORCE 58 TRUCKS CHEVROLET

What's new on the



Self-clearing hopper cars—shown here loading iron ore from a Great Lakes ore boat—form the biggest category of new equipment.

New York Central



15,000 new freight cars help meet growing shipper needs ...move your freight faster

The equipment you see here is part of more than 15,000 new freight cars ordered or received by the Central during 1956-57!

To date, 11,244 of them have been put into service. These cars, representing an investment of over $150 million, will roll night and day to help keep your freight moving faster.

The new rolling stock will help provide a rotating reserve of empty cars—ready to move whenever you're ready to ship. And in time of national emergency, they would be available for the tremendous job that has always fallen to the railroads. America has learned through three wars that there is *no substitute* for dependable, all-weather rail transportation.

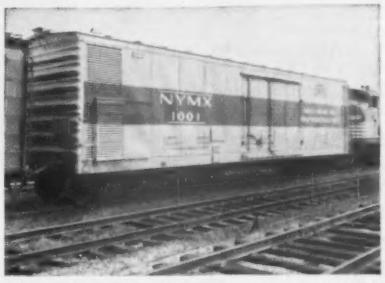
Topping the Central's order are 5,500 hopper cars to carry vital coal and iron ore! Another 4,500 hoppers will go to the railroad's Pittsburgh & Lake Erie affiliate. There will be 3000 new boxcars . . . 1050 refrigerator cars . . . 150 Flexi-Van flatcars —in all, 13 different types of equipment.

The Central is adding 86 diesels to its fleet, too. These alone will cost more than $16 million!

This extensive equipment purchase is *just one example* of the hard cash that backs up our firm faith in the Central. Big things are happening *all over* this progressive railroad. Ask our freight salesman to explain how each of these innovations makes for better service than ever —at no extra charge to you.



500 new automobile cars with 15-foot double doors are already in service.



50 mechanical refrigerator cars and 1000 standard "reefers" have been purchased.



500 new gondola cars will go to the Central's Pittsburgh & Lake Erie affiliate.

Route of the "Early Birds"—Fast Freight Service

New York Central Railroad



WOOD STREET YARD, showing new office building, is just four miles from Chicago's loop. It is the focal point to which potatoes and onions come from all parts of the country. The yard has trackage for 550 cars, but additional track facilities (left) will accommodate 1,850 cars for holding, inspection or reconsignment purposes.



PAPER WORK is transacted by the dealers in rented space in the new office building which contains 27 offices and suites, as well as a restaurant and toilets.

Why C&NW Built Potato Men a

North Western promotes convenience of produce dealers by providing them with an on-the-ground office and modern communication facilities.

The lowly potato commands a high revenue rating on the North Western. So, things were made easier for the men who make this revenue possible—the potato brokers.

At Chicago's Wood Street Terminal, the central market for potatoes and onions, the North Western set up a new, modern office building and improved communications.

Brokers now transact business right in the yard. Formerly they were located in offices about a mile from the terminal. Mornings, brokers did their business in the yard, returned to their offices, then frequently found it necessary to hustle back later in the day. Now, everything is centralized, saving time, money and energy. The entire operation is simplified and works advantageously both for the brokers and the road.

More than 19,000 carloads of produce are handled through this terminal annually. Potatoes account for more than 17,000 cars. The facility covers about 60 acres with trackage for 550 cars and wide concrete driveways between pairs of tracks.

Six nights each week the C&NW switches this yard setting in new loads of produce. From 8 to 10 each morning dealers gather, show, inspect, buy and sell carloads of vegetables at a provided shelter. The rest of the day is devoted to loading and unloading of purchases while brokers hurry to their offices and transact paper work.

Serves Produce Dealers

The C&NW built this yard in 1930 with the specific purpose of serving the produce dealers. It includes covered unloading platforms equipped with platform scales, and also two 34 ft long automatic scales for weighing truckloads of potatoes. The yard is situated adjacent to other track facilities which have a capacity for 1,850 additional cars for holding, inspection or reconsignment. The road maintains day as well as night switching crews at Wood Street terminal for spot-





BUYING AND SELLING of potatoes and onions take place at this shelter every morning between 8 and 10. Average of 30,000 bags of potatoes are dealt with daily.

New Home

ting and movement of cars consigned to this point, and has a superintendent and a terminal office at this location for expediting service. Floodlights enable night workers to mark, inspect and do other chores during dark hours.

A loudspeaker system which covers the entire terminal allows dealers or their employees to be paged at any point in the yard while they are engaged in inspection of produce or selling operations.

Another feature is the provision of a telephone terminal in each of the dealers' offices which connects with the railroad's telephone switchboard in the terminal office.

This provides an additional means by which dealers may be reached quickly and may contact various railroad units for up-to-the-minute information on car movements.

It's a Ranch-Style Building

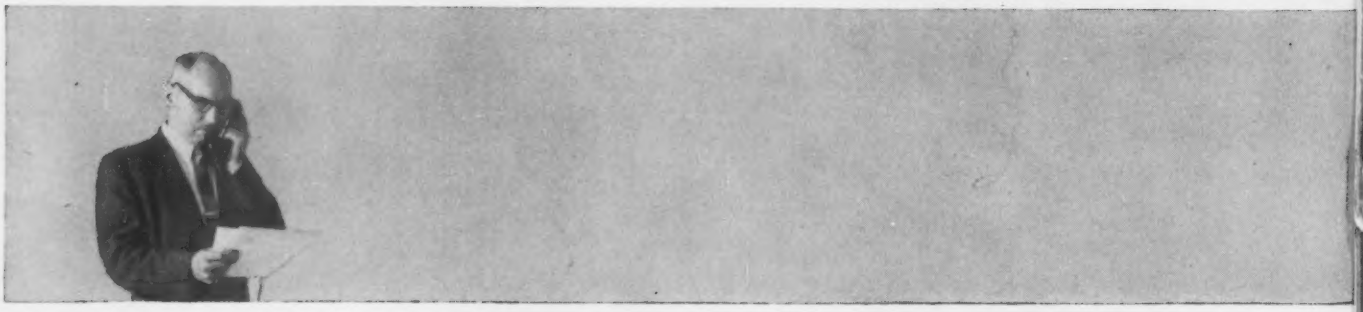
The new office building, placed in service on October 1, is a one-story ranch-style brick structure, 320 ft by 50 ft. It contains individual offices, ranging from 200 to 800 sq ft in area, reached from a central corridor. It also contains public toilet rooms and a spacious restaurant at its west end. The entire weight of the roof is carried by the side walls. This permits the concrete-block partition walls to be located to form rooms desired by tenants.

The building is modern in every respect and includes asphalt-tile floors, acoustical ceilings, fluorescent lighting and air conditioning. Each office has its own lavatory. A concrete walk encircles the entire building and diagonal auto-parking spots are marked out on the concrete driveway on each side. A roof overhang provides cover for the walk and protects the windows from direct summer sunlight.

At present, 17 of the 22 tenants who have leased space have moved into the building. The others are slated to move in as soon as their present leases expire elsewhere. One of the new tenants is the Carlot Potato Association which has established its headquarters in the building. This organization is important to the trade as it establishes trading hours, rules and working conditions; controls rates and traffic; distributes and exchanges statistical data and credit information pertaining to the trading of potatoes and onions; and acts as an arbiter between carlot receivers, customers and the carriers.

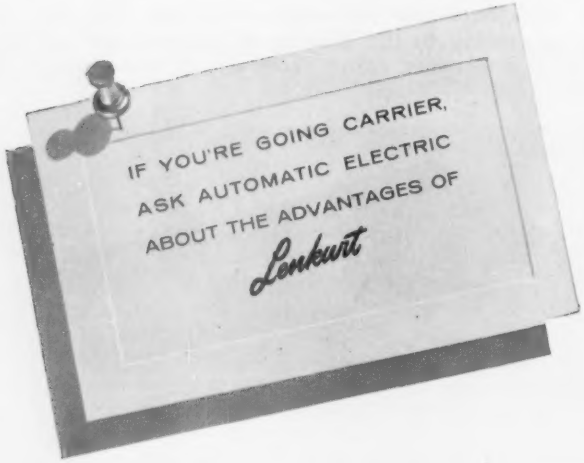


NEW OFFICE building gives produce dealers an on-the-ground facility from which they can conduct their on-track inspection and selling operations. A paging system provides communication between office and on-track employees.

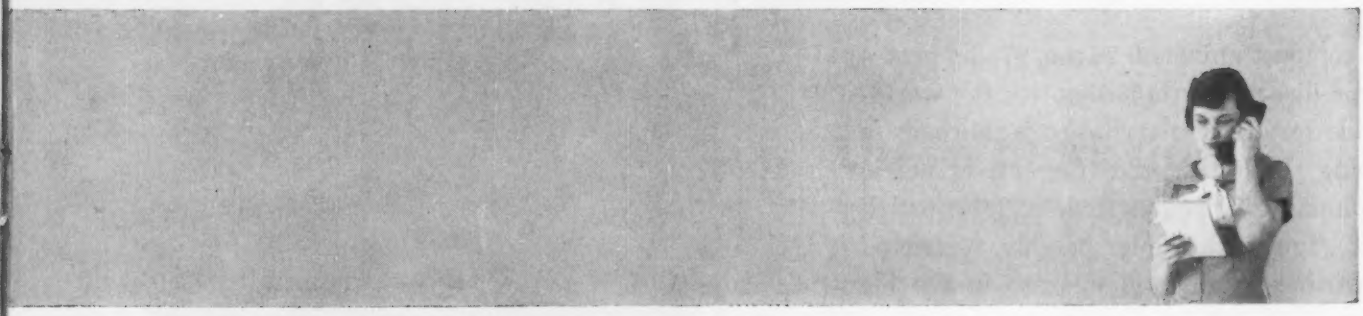


Add phones, add circuits





Using Lenkurt carrier equipment,
Automatic Electric engineers
can help you expand
your communications quickly
—and at low cost!



without adding wires!



It's simple to modernize your communications by increasing the efficiency of your existing wires. Using Lenkurt carrier equipment, Automatic Electric engineers can show you how to add dozens of new circuits —in most cases without adding an inch of new wire. Then, on these new circuits, you can easily add all the telephones you need. When phones are handy and circuits are available, there is no waiting . . . your employees get far more done . . . your rolling stock works 'round the clock . . . your customers get fast action and improved service.

You can also install an Automatic Electric dial telephone system—one of the most valuable communications tools of modern railroading. This enables anyone on your road to dial direct to any point on the system. No switchboard operator, no waiting, no "priorities". And you *own* this system . . . pay no rent or toll charges.

Ask your Superintendent of Communications

Your Superintendent of Communications is well aware of how modern communications can serve you as a profit-making tool. We'll be happy to work with him in blueprinting an expanded, integrated communications system to take care of your present and future needs.

No single organization offers you the depth of experience and facilities you find at Automatic Electric. Railroad communications have been a specialty with us for over half a century. To find out how we can help you, just write: Automatic Electric Sales Corporation, Northlake, Illinois.

In Canada: *Automatic Electric Sales (Canada) Ltd., Toronto, Ontario.*

Offices in principal cities.

AUTOMATIC ELECTRIC

A member of the General Telephone System—One of America's great communications systems

GENERAL TELEPHONE SYSTEM

A compact universal 76-ton, 975-hp prototype diesel-electric locomotive for world-wide service on narrow-gage railroads is being built by the General Electric Company. It has low axle weight, multiple gages and coupler heights, restricted clearances, and will operate in a wide range of ambient temperatures.



THIS DIESEL is adaptable to all narrow-gage operating conditions.

Army Locomotive for World Service

Light locomotive weight is achieved in this unit's design by the use of aluminum and high-strength steel. To accommodate to various gage tracks, the wheels may be relocated on the axles and the brake rigging adjusted accordingly. The center axle wheels of the six-wheel trucks are flangeless, permitting operation over curves of 100-ft radius. The engine may be operated at ambient temperatures ranging from +129 deg F to —65 deg F and may be stored even at —80 deg F.

Low overall height is obtained by mounting the main Alco-GE power plant between two longitudinal box sections. The locomotive is prepared to accommodate 17 varieties of couplers and draft gear with coupler heights ranging from 22½ in. to 36 in.

The motors, which weigh only 3,500 lb, will produce maximum horsepower within the 36-in. gage requirements. The Transportation Corps requires 6⅞ in. clearance under the motor and gear cases, instead of the usual 4¼ in. To meet this clearance, a combination of 40-in. diameter wheels and an 88:19 gear reduction was selected.

Special provisions are made for cold weather operation. Hot water from two oil-fired heaters is circulated to the air compressor, diesel engine, battery and fuel tank to heat these components before starting the engine. A motor-driven pump is used for precirculation of lubricating oil in the engine to assist in cold weather starting.

Inductive interference from electrical equipment has been suppressed by the use of capacitors, bonding and grounding to minimize the influence on radio and radar transmission and reception as required by the Transportation Corps.

The locomotive is fitted with straight and automatic air brakes and provision is made for future modification to automatic vacuum, automatic air and independent air brakes. When this modification is made a motor-driven exhauster will be installed to provide vacuum for operating the train brakes as used on some foreign railroads.

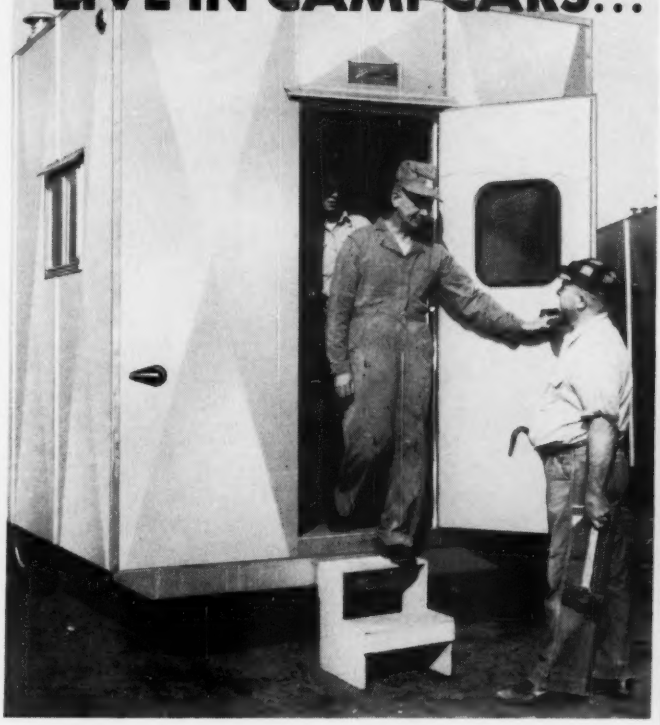
This locomotive has special test equipment installed to assist the Transportation Corps in thoroughly testing its performance. A speed recorder and a pyrometer are installed on the locomotive to help check the performance of the locomotive.

After its completion at Erie, the locomotive may be delivered to the Denver & Rio Grande Western at Durango, Colo., to undergo field tests.

SPECIFICATIONS

Fuel capacity, gal.	800
Lubricating oil capacity, gal.	140
Engine cooling water capacity, gal.	130
Sand capacity, cu. ft.	12
Total weight, fully loaded, lb.	152,000
Weight, per axle, lb.	25,300
Rated horsepower input for traction	800
Starting tractive force at 30% adhesion, lb.	45,600
Continuous tractive force (at 7.7 mph), lb.	28,000
Maximum speed, mph	50
Type	0-6-6-0
Operating temperature range, deg. F	—65 to 125
Length inside knuckles, ft., in.	41-2⅝
Width, overall, ft., in.	8-6
Height, overall, ft., in.	11-2½
Coupler height above rail, in.	22½ to 36
Rail clearance under gear case, in.	6⅞
Track gage, in.	36, 39⅜ and 42
Truck wheel base, ft., in.	10-0½
Distance between truck centers, ft., in.	18-0
Wheel diameter, in.	40
Minimum radius curve (locomotive alone), ft.	100

WHEN THESE MEN LIVE IN CAMPCARS...



these men ride the gravy train



The gravy-train is that wonderful train that rides the route to that Never-Never Land of low operating costs and high productivity.

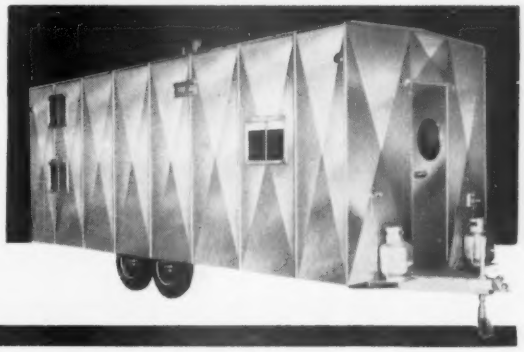
It's an Ever-Ever Land to those railroads that use Morrison CAMPCARS to move, house and sustain their M/W Crews. Their operating costs drop immediately for CAMPCARS offer mobile housing that cuts down portal-to-portal pay time, travel time, food and lodging costs. Actually CAMPCARS can house 8 men for what you presently are paying to house one!

Morrison CAMPCARS are built by railroad men! The 30 year experience of Morrison-men in supplying railroads with important equipment is reflected in the quality, built-to-take it construction of CAMPCARS and their unique and practical design. They afford commodious off-track housing that builds crew morale, working incentive and higher productivity. They are clean, sanitary and completely equipped to enable 2 to 50 men or more to live and work at remote spots independent of utilities or service for a week to ten days.

To learn more about this wonderful ride on the gravy-train, write for your copy of our fact-packed CAMPCAR brochure and the names of the important railroads that presently use them.

MORRISON
RAILWAY SUPPLY CORP.

1437 BAILEY AVENUE • BUFFALO 12, N. Y.



"He'll never stop



... that train in time!"



The dramatic incident that started George Westinghouse, inventor of the air brake, on the road to the Hall of Fame for Great Americans.

THE PAINTING shows a famous event in railroad history. Twenty-four-year-old George Westinghouse was demonstrating a new brake for trains. He said he could do the job with compressed *air*, instead of a long chain that stretched between cars. At that time, very few people thought an "air brake" would work.

The test train clanked out of Grant's Hill Tunnel in Pittsburgh —but there, right on the tracks, was a team of horses and a wagon. The engineman yanked the strange new brake lever for a full emergency stop. The brakes clapped shut on the wheels, and the train slid to a stop only four feet from the terrified, bucking horses. Never before had a train stopped so quickly. The dramatic story was told all over the land, and young George had won his first round toward total acceptance of the Westinghouse Air Brake.

On December 1, 1957, a bronze bust of George Westinghouse was unveiled and permanently enshrined in the Hall of Fame for Great Americans. The choice was made by a select committee of 125 distinguished Americans representing every state in the Union. Only 86 Americans have been so honored . . . among them such men as George Washington, Abraham Lincoln, Benjamin Franklin, Samuel Morse, Eli Whitney, Robert Fulton and Alexander Graham Bell.

The first company formed by George Westinghouse was the Westinghouse Air Brake Company. Following the policies he established, the Westinghouse Air Brake Company has carried on for more than 88 years a continuous program of research and development which has made it, today, the largest manufacturer of railroad air brake equipment in the world.

Westinghouse Air Brake
COMPANY
AIR BRAKE DIVISION WILMERDING, PENNA.

NEW...

BROWNHOIST 150 TON DIESEL WRECKING CRANE

Designed specifically to meet rail, bridge and trestle load restrictions, the new Brownhoist 150 ton Diesel Wrecking Crane embodies the rugged construction, greater efficiency and low maintenance features found on the famous Brownhoist 250 Ton Diesel Wrecking Crane. Diesel engine is equipped with a torque convertor, and the crane travels on 2, six-wheel equalized steel side frame trucks. Operating cab is in right front corner with controls arranged for convenience and efficiency. All clutches are air operated.
Write for complete information.



204

BROWNHOIST



CLAMSHELL BUCKET 250 TON WRECKING CRANE COAL-ORE BRIDGE CAR DUMPER LOCOMOTIVE CRANE

INDUSTRIAL BROWNHOIST CORPORATION, BAY CITY, MICHIGAN • DISTRICT OFFICES: New York, Philadelphia, Cleveland, Chicago, San Francisco, Montreal, Canada • AGENCIES: Detroit, Birmingham, Houston

SUBSIDIARY OF Penn-Texas CORPORATION



NEW BOX CARS, new trackage, new plant—view of new C&EI facilities at Ford Motor Company plant, Chicago Heights, Ill.

Industrial Development Booms

Industry is taking a long look at the C&EI when plant expansion is considered. One reason: the railroad has taken a long look at itself.

One of the "big stories" of railroading in the postwar era has been the story of industrial development. Practically every railroad has embarked on some form of "ID" program, using methods as varying as the roads themselves. Only the objective is the same: to attract new industry and to expand existing industry.

Some smaller railroads operate ID through a one-man office, using traffic department representatives as "pipelines" of information; many larger roads of course have set up full fledged departments with representatives in key cities.

In the main, industrial development efforts involve two major steps—(1) to gather data on what the railroad and its on-line communities have to offer; and (2) to "sell" those offerings to interested industry. Here's how a medium-size railroad has gone about the job.

In the past two and a half years, some 69 industries have erected new plants on the Chicago & Eastern Illinois. Railroad estimates of the total carloadings from these industries approximate 37,000. Railroad industrial development men term progress during the last year "phenomenal." By 1960, they say, the road will be feeling the full benefits of current construction and all indications point to a continuation of the ID "boom."

Yet five years ago, the C&EI didn't even have a job titled "director of industrial development."

C&EI's success in bringing new industry on-line may rest in large part on the road's painstaking efforts to "know itself"—although, like public relations, such efforts are hard to measure on a cause-and-effect basis.

Concentrated ID efforts began some years ago with a series of comprehensive surveys of C&EI communities. The road brought out surveys of the Evansville,



Your old-fashioned scalping cuts more profits than weeds!



Clearing weeds by shovel-cutting, with today's high cost of labor, is downright extravagant! Borate weed killers can do a much better job of weed control for a small fraction of what hand-scalping is now costing you.

Countless dollars have been saved on weed control by 'roads using our borate weed killers since we first pioneered their development. They are effective against weeds and grasses for long periods... easy to apply... and safe to use wherever vegetation is unwanted. Today we offer a choice of several proven herbicidal formulations—each with special characteristics and advantages—to meet *your* particular requirements.

Start *your* labor-saving weed control program now. Talk to one of our technically-trained salesmen. He will be glad to recommend and demonstrate the right weed killer for you. Write today for literature or to arrange a meeting.

United States Borax & Chemical Corporation
PACIFIC COAST BORAX COMPANY DIVISION
630 SHATTO PLACE • LOS ANGELES 5, CALIFORNIA

Concentrated BORASCU® • UREABOR® • POLYBOR-CHLORATE® • MONOBOR-CHLORATE®



Ind., area, the Southern Illinois district and the Wabash River valley. Then, earlier this year, economist Arthur Longini wound up the road's studies with a massive, 600-page volume on Chicago and the Chicago Heights area (where C&EI owns large amounts of property).

C&EI had no set industry mailing list for the book. But the road began receiving requests for the survey even before it was published. Some 900 copies have since been distributed and, according to C&EI ID men, the reception given the book has been "terrific."

The survey, it might be noted, was some two years in preparation, and cost approximately $50,000 at a minimum. But it completed the study, giving C&EI an economic picture of practically its entire line.

C&EI has produced these results without boosting its staff beyond two men—at present, Director of Industrial Development George A. Craig and Industrial Agent W. S. Porter. A key feature has been cooperation through the traffic department with men in the field in some 30 offices. Most initial contacts at a local level are made by traffic people. If a prospect looks good, the tip is passed on to the industrial development force and ID goes to work to turn a prospect into a customer for transportation, with a plant along the C&EI.

One major result of the intensive ID operation has been to make the road less dependent on overhead traffic and on coal loadings. Overhead business, a lucrative source of income in good times, can be a dry well in times of recession—even if the recession develops hundreds of miles away, off-line. And coal traffic, as C&EI has discovered in the past, can slump alarmingly in a relatively short space of time.

Trend Is Upward

Statistics would indicate that industrial development is still on the upgrade. Twenty-four new industries located on-line during 1956 added an estimated 11,-191-carload potential; 18 new industries added during the first eight months of 1957 have added an estimated 11,980 carloads.

Another indication of the growth lies in the carloadings figures for individual industries. In 1955, 20 of 27 new plants were estimated at less than 100 carloads a year; in 1956, 16 out of 24 figured to add less than 100 loads; but in the first eight months of 1957, only four out of 18 new industries were among the less-than-100-carloads group.

Diversification has been a third major point—development since January 1, 1955, has included industry ranging from engineering to warehousing, from petroleum to fertilizer. This year alone has seen a dozen different types of industry locating on line—among them Victor Chemical Works at Chicago and Chicago Heights; Permacrete Products Company, at Chicago; Spencer Chemical Company, Phillips Petroleum Company, Calumet Steel Division of Borg-Warner Company, Dawe's Laboratories and United Wallpaper, all at Chicago Heights; Traylor Brothers, Inland Container Corporation, and Ryan Construction Company, all at Evansville, Ind.; Cities Service and Phillips Petroleum, both at Villa Grove, Ill.; Standard Materials Company, at Terre Haute, Ind.; Infilco, Inc., at Salem, Ill.; McCormick Brothers, at Sollitt, Ill.; Mitchell Crushed Stone, at Wansford, Ind.

Railroading  After Hours with Jim Lyne

"MOONLIGHTERS"—I note that there's a new word going the rounds—"Moonlighting," meaning to hold down more than one job. This is an old practice among railroad men—but maybe it's on the increase.

As far back as I can remember, I have known of enginemen who were successful farmers on the side. I recall one who, along with his wife, conducted a thriving business in portrait photography.

A long time ago I knew a suburban trainman who made only one round-trip a day—into the city fairly early in the morning and back to the country around 6 p.m. During his day in the city he was a full-time university student.

None of the "moonlighters" I have known was any less efficient as a railroader because of his side-line activity. But maybe I haven't looked far enough.

TRANSPORT INTERMARRIAGE—At the meeting of the National Defense Transportation Association a couple of weeks ago, Defense Mobilization Director Gordon Gray revealed a novel and apt conception of defense transportation planning. What he said was that, in an attack by nuclear weapons, our country might well be divided into a number of isolated segments—separated from each other by areas contaminated by radioactive fall-out.

Such an attack would break railroad systems into separate parts—and would do the same thing to airlines, pipelines, and truck and waterway operations. Unless these big geographical systems get busy and develop talent and plans to enable them to work together locally without contact with headquarters, it may be just too bad.

In view of Mr. Gray's analysis, the federal government's policy, which makes it next to impossible for railroads to engage in other forms of transportation, looks pretty unrealistic. Instead of keeping the various agencies of transportation antiseptically isolated, as at present, government ought to be actively encourging their intermarriage.

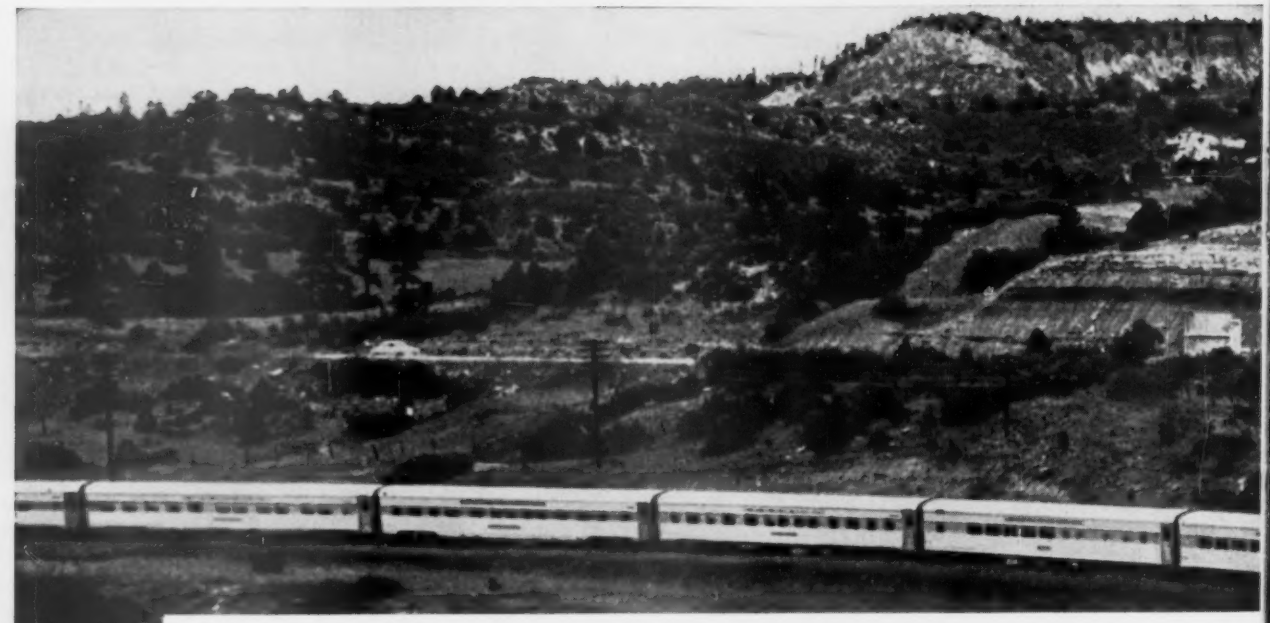
HOW TO WIN A WAR—During a "railroad panel" staged at the same NDTA meeting General Charles A. Bolte of ACF questioned whether America's concentration on short hours and big pay is a strategy that wins wars. They're won, said the general, because at least some fellows are willing to put in long hours in dangerous and uncomfortable spots.

I suspect that the general's misgivings have a much wider application than to the waging of war. No embattled institution—and this includes the railroads—is likely to come out on top, if many of those who work for it put their leisure and their standard of living ahead of their devotion to the job.

GETTING MORE PASSENGERS—From all the talk I've heard, I have no doubt that a lot of influential people actually believe some of the big railroads want to get out of the passenger business entirely—not just the unprofitable part of it.

I don't happen to share this belief—and I suspect its prevalence does the whole railroad industry a lot of harm. It doesn't seem to me that this mistaken belief would be too hard or too expensive to remedy. It could be done by consistent advertising—not of a railroad's entire passenger service—but of the fares, the schedules, and the comfort of the particular runs that really have growth and profit potential.

You seldom see an airline ad that tries to cover all its services. Airlines' advertising concentrates primarily on fares.



GASCON®...

choice of more than 100 U.S. Railroads!

The widespread popularity of Sinclair GASCON® Diesel Engine Lubricating Oils is due to their brilliant performance.

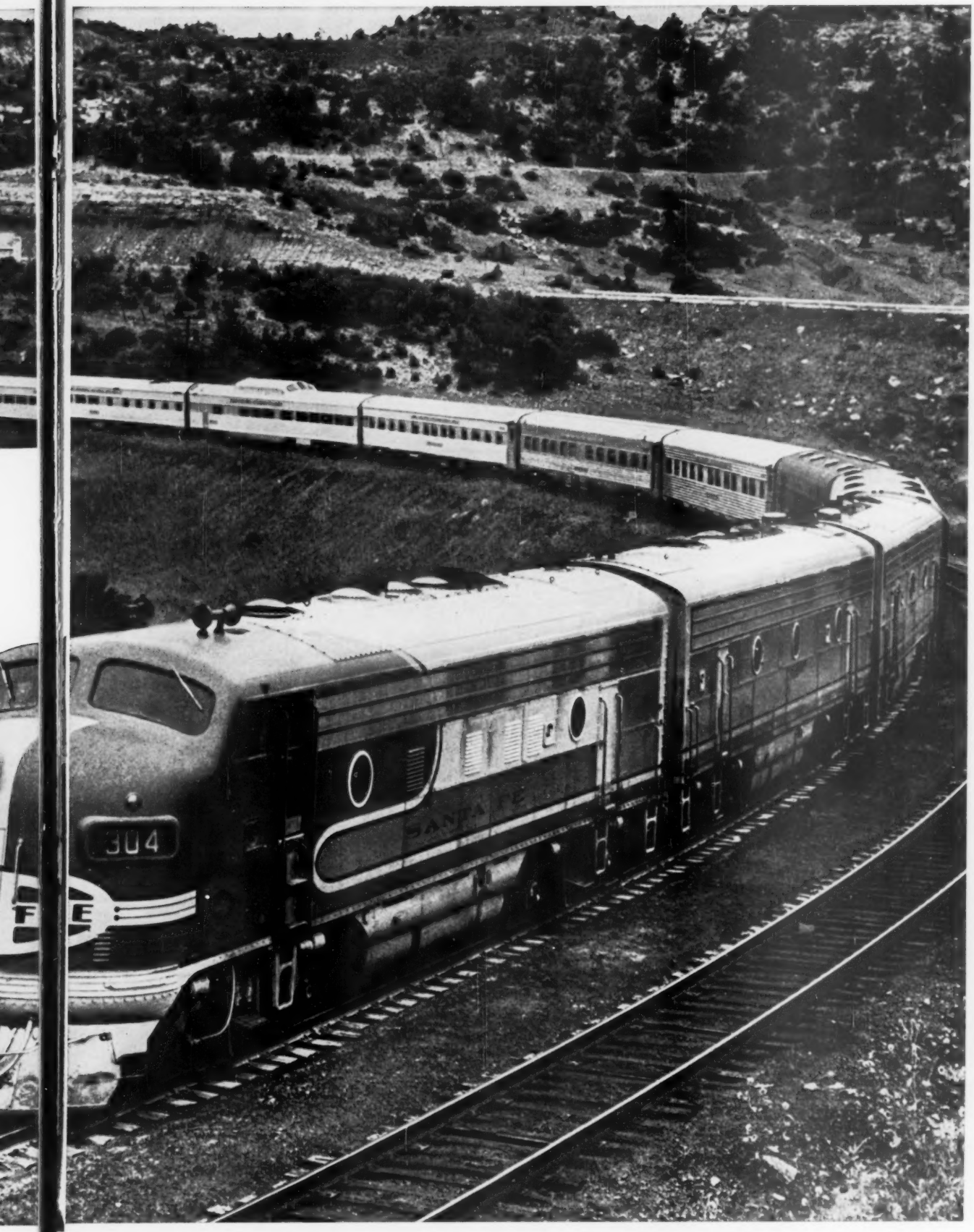
With their high degree of detergency, GASCON Oils keep all parts of a Diesel engine operating clean and free.

It's time you, too, investigated the advantages of this top-quality railroad lubricant. Contact your Sinclair Representative, or write us today.

SINCLAIR RAILROAD LUBRICANTS

Sinclair Refining Company, Railway Sales
600 Fifth Avenue, New York 20, N. Y.
Chicago • St. Louis • Houston




304
SANTA FE

behind the 8-ball



We will be glad to send you enlarged copies of this Hungerford cartoon (without advertising copy) for posting on your office and shop bulletin boards, or a cut for your company magazine, at cost.

by HUNGERFORD



Edgewater Steel Company

P.O. Box 478 • Pittsburgh 30, Pa.

makers of Rolled Steel Wheels for: Freight Cars • Passenger Cars • Diesel Locomotives



Check list for a customer: to measure a supplier's dependability in the future

During the past six months we have discussed *responsibility* as the basis of selecting a supplier.

We covered *price* in relation to rising material costs. We discussed *delivery* and gave examples of "responsible delivery." We showed that delivery becomes *customer-service* through the same careful attention to orders for repair parts as was given to your original order.

We asked you to check daily performance to measure the quality of a supplier's *product*. And we showed how Research and Development helps a supplier to *set-the-pace* toward serving you best in the future with new products and product uses.

Now, we ask you to do one thing more. Study your suppliers with regard to all these areas. Use the performance of the past—and today—to measure the degree of a supplier's dependability in the future. Select a supplier who gives proof *every day* of being responsible in *all* these aspects. He is the supplier you can depend on in the future.

You will be interested in the series of advertisements that will appear in the following months. They will show, by specific product-examples, how a supplier's responsibility and dependability can serve you through greater performance and cost reduction.

STANDARD RAILWAY EQUIPMENT MANUFACTURING COMPANY

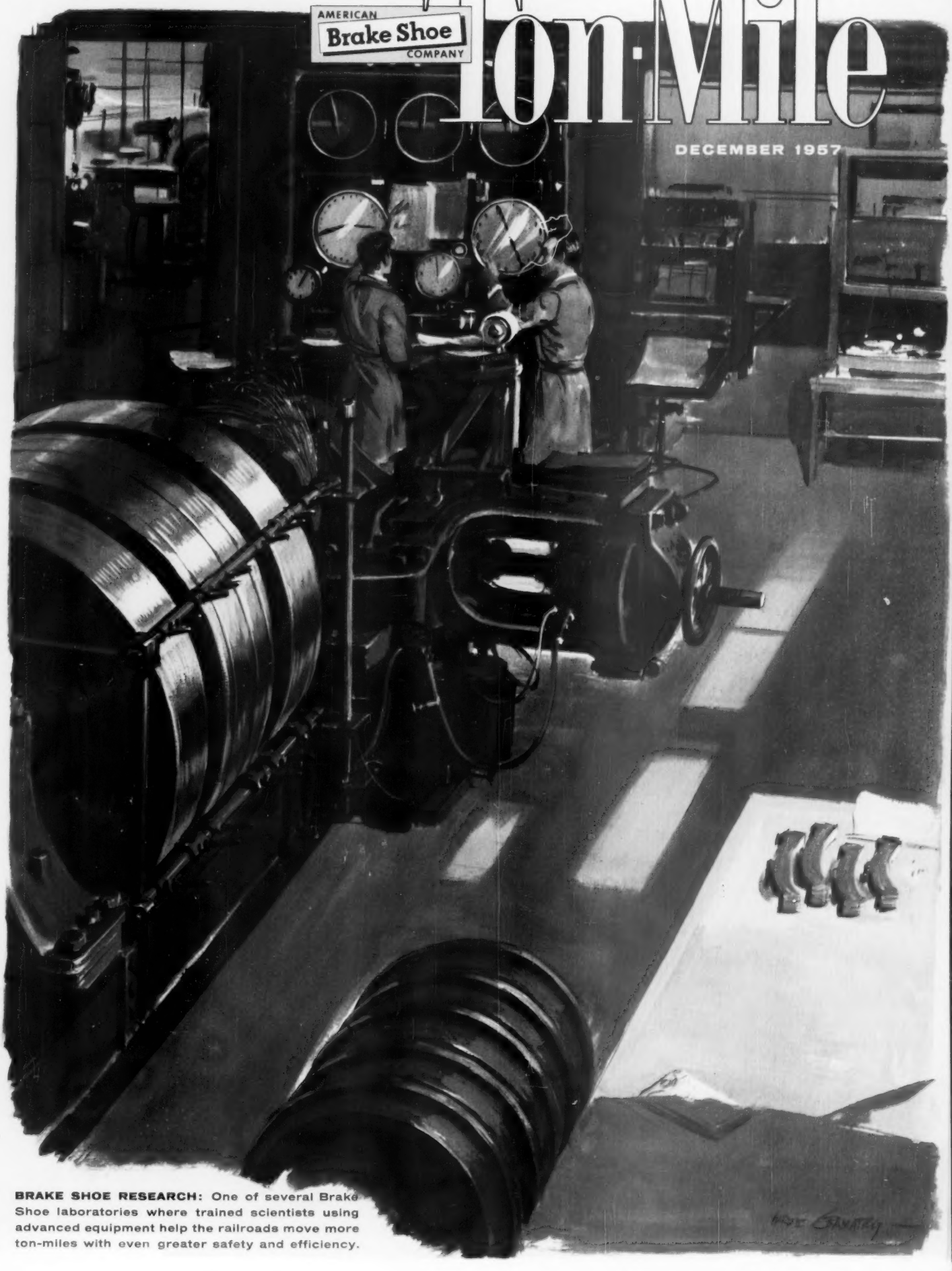
General Office: 4527 Columbia Ave., Hammond, Ind. • New York • Chicago • St. Paul • San Francisco

DEDICATED TO BETTER RAILROADING

AMERICAN Brake Shoe COMPANY

The Ton-Mile

DECEMBER 1957



BRAKE SHOE RESEARCH: One of several Brake Shoe laboratories where trained scientists using advanced equipment help the railroads move more ton-miles with even greater safety and efficiency.

SPOTLIGHT on BRAKE SHOE



Another carload of Redipak® Twin

lubricating pads are on their way! Assignment: control hot boxes through better journal lubrication. Destination: Denison, Texas.



Added service to Canadian railroads

was announced by Dominion Brake Shoe Company, Ltd. (a subsidiary of American Brake Shoe Company), which has recently formed its new Manitoba Steel Foundry Division. These new facilities will enable the company to supply an increasing demand for trackwork in the western Canadian area.

New wall charts are available,

describing with large drawings and simple text the easy installation and removal of Redipak Twin lubricating pads and the Brake Shoe Lockey®. Printed on heavy, durable stock, these charts are designed for use in shops and yards. Just let your Brake Shoe representative know how many you need or write American Brake Shoe Company, 530 Fifth Avenue, New York, N.Y.



ton-miles with even greater safety and efficiency.

The Ton-Mile
dedicated to Better Railroading

The Hidden World of RESEARCH



...makes tomorrow's trains faster, safer, and more efficient

In a laboratory hidden in the quiet of the New Jersey hills, a young engineer watches his instruments while a few feet away nearly 10 million foot pounds of energy cascade from a spinning railroad car wheel in a bright fan of sparks. On one of the largest dynamometers in the world, an invisible railroad car weighing 114 tons and traveling at 100 mph has been brought to a stop. Although the car is simulated, the tortured brakes and the huge wheel, spinning at this rate and loaded to 28,500 pounds, are very real—as are the immense forces that have been turned loose and accurately recorded by the dynamometer.

In another room an engineer, hooded in the anonymity of an arctic explorer's parka, installs a bearing in a journal box at forty degrees below zero—cold enough to turn many lubricants to a thick, molasses-like consistency. Outside, watching through a window flecked with frost, is another young man seated at a control panel. The journal is loaded to 20,000 pounds and started on its frigid 500-mile journey within the confines of this room.

This is the hidden world of research that is rarely seen by the railroader's world of moving trains. It is a world of seeming paradox and fantasy—trackwork and ties pounded and worn by imaginary trains, wheels operated over simulated runs more difficult than could ever exist, bearings hauled through deserts unknown to man, equipment worn, wracked, tortured over thousands of miles . . . under a laboratory roof.

It is a hidden world that makes the familiar world of railroading more safe and more efficient.

Combining progress with safety

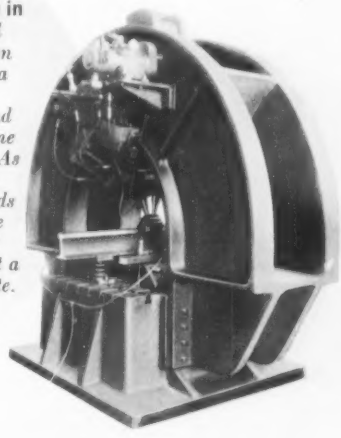
The scene of these trials-by-torture is American Brake Shoe Company's Research Center at Mahwah, New Jersey, an imposing collection of buildings reminiscent of a university campus. It is reasonable to ask why Brake Shoe has built this costly center and why it is spending over $1,500,000 a year on research, most of which benefits the railroads.

The answer is that with the growing demand for higher loads, greater speeds, more efficient operation, there is always room for improvement in railroad equipment. But mere improvement is not enough. New components must be thoroughly tested in engineering laboratories before they are used on the road. This is the only way the railroads can maintain their high level of safety.

To combine progress with safety, then, is the reason why Brake Shoe has invested heavily in facilities for research that ranges from metallurgical studies of basic materials to complete testing of finished components under conditions that reproduce actual service. The Research Center at Mahwah includes an experimental foundry capable of exploring the frontiers of metal casting; a complete machine shop; a chemical laboratory, with a test lab for composition materials; a fully staffed metallurgical laboratory; in addition to the railroad laboratories, consisting of the Sargent Research Laboratory and the Bearing Laboratory—all containing some of the most advanced test equipment known to the industry. These research units—plus the engineering labs of the manufacturing divisions of Brake Shoe—comprise a team that is able to dig deeply into a wide variety of problems that face the railroads.

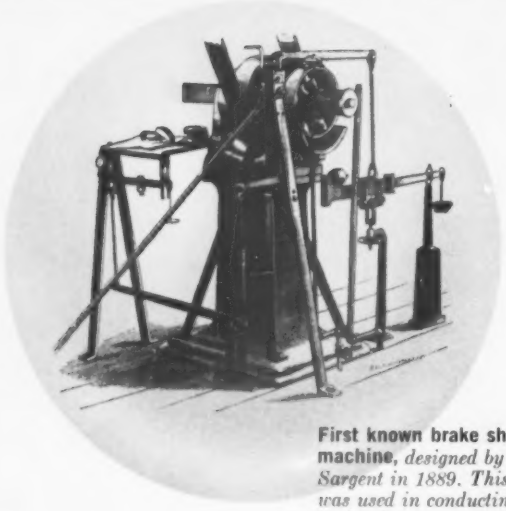
Brake shoes vs. foot pounds

Surely no other railroad component is more important from the point of view of safety, than the brake shoe. Nor is any other component given the same punishment. During a stop, a brake shoe often absorbs energies in the order



Fifteen years of service life in a few hours. *This test stand duplicates the pounding given ties and rails by a train on a 5°30′ curve. The hydraulic pistons may be moved around the circumference of the frame to obtain the desired forces. As set up, the pistons deliver a vertical load of 20,000 pounds coupled with alternating side thrust components of 10,000 pounds and 5,000 pounds at a rate of 400 loadings a minute.*

Brake Shoe | TON-MILE



First known brake shoe testing machine, *designed by F. W. Sargent in 1889. This machine was used in conducting early brake shoe tests.*

of several million foot pounds. On its ability to halt the tremendous momentum of a loaded car depends the operating efficiency and safety of the train.

The early pioneers of railroading took a rather nonchalant view of brakes. Casual rigs of wood or stone sufficed—whenever it occurred to anyone to bother at all. Collisions, fires, casualties were the ordinary hazards of the day.

Perhaps the first truly scientific approach to brake shoe analysis was made on a small test machine built in 1889 by F. W. Sargent—who later became a chief engineer at American Brake Shoe and a famous name in railroad history. Successively larger test stands have been built since then, culminating in the present dynamometer in the Research Center at Mahwah.

This massive test stand is capable of measuring braking conditions of full-sized wheels turning at equivalent speeds up to 150 mph and carrying loads from 4,000 to 40,000 pounds. Built to handle brute forces with extreme sensitivity, the brake shoe dynamometer is so flexible that it is possible to duplicate the braking of a car of any kind—passenger or freight—during a stop, a slowdown, control on grade, or the entire sequence of braking of a train traveling between two points.

Out of Brake Shoe's fifty years of probing into the facts of shoe performance has come an impressive list of improvements, including, among others, longer lasting alloys, steel mesh construction, steel backs, carbon inserts and other refinements that have added to the metal shoe's safety, efficiency, and wearing life.

The composition shoe: research in depth

These fruits of research are not the product of the railroad laboratory alone. As a tree draws from many roots, Brake Shoe's investigations tap deeply into the rich ground of its basic engineering research—the metallurgical and chemical laboratories for improved materials, the experimental foundry for new processes.

A somber line of filing cabinets ranked along a corridor wall in the Research Center is massive testimony to the depth and breadth of a typical Brake Shoe Company investigation. Behind this green facade are the records of over thirty years of research by American Brake Shoe into composition shoes. In the terse engineering reports, the formulas, the letters, the charts, is the profile of a progressive industry, outlined in excitement, hope, disappointment, and success. The record ranges from the earliest composition materials which Brake Shoe tested in 1924 . . . their success as auto and truck brake linings . . . the continuing search for a completely successful railroad application . . . through to the construction of a pilot manufacturing plant . . . the endless testing on the dynamometer, and the reports now coming in from the many road tests. In this huge store of knowledge is the stuff of railroad progress.

Why ties wear

While the brakes spark for imaginary station stops on the dynamometer, another ghostly train pounds the rails nearby. To test track equipment, a specially built machine thunders away, simulating, for example, fifteen years of service life on a tie in 210 hours. A great semicircular cast iron frame hulks over the rail and tie on the test bed, hydraulically delivering heavy blows that duplicate the thrust of a train on a curve.

On this machine were developed the Racor® stud and the Racor tie pad. Initial studies on the test stand had revealed that the ordinary anchor spike, with its loose fit in the plate holes, allows the plate to scrub back and forth over the tie as a train passes. Under these conditions wear accelerates. The Racor stud was designed to eliminate this play by forming a tight, wedged fit with the plate. Driven into a pre-bored hole in the tie, it effectively resists side thrust, thus lengthening the life of the tie and maintaining gage.

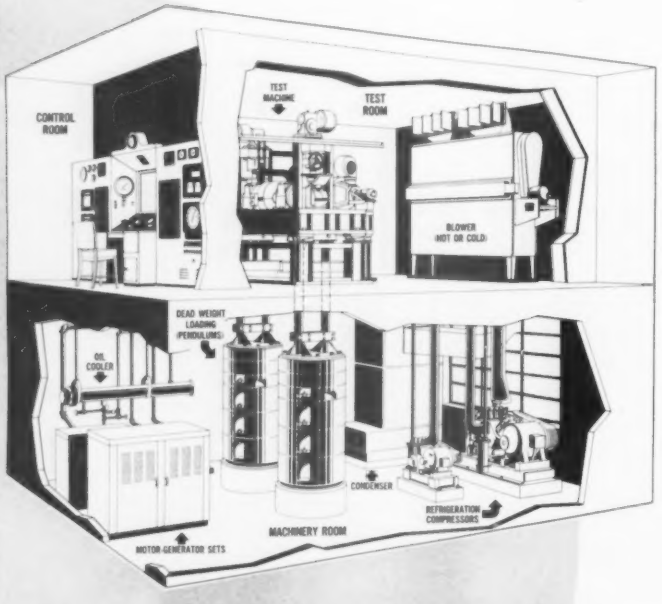
Also developed and proved on the tie wear test machine, the Racor tie pad reduces plate cutting and provides a seal against sand and moisture, which shorten tie life.

Toward a better bearing

The indisputable fact about the solid journal bearing is that *it works*—even under conditions that would be fatal to other types of bearings. For years it has carried the nation's freight on its broad back, safely and economically.

But, like any other mechanism, it falls short of perfection. The trend toward higher speeds, greater loadings, costlier maintenance, has increased the hot box and journal servicing problems.

In 1952 American Brake Shoe wagered a quarter of a million dollars that a vast improvement in bearing performance could be made, when it built its Bearing Research Laboratory at the Research Center in Mahwah. The tools at the lab's command are varied and original. There are rows of test stands with journal bearings and



Duplication of extreme bearing conditions *is possible in the climate chamber, including equivalent axle speeds up to 115 mph and temperatures from —40 to 130F. The round weights in the lower room hang from the test bearings, simulating car journal loads up to 20,000 pounds, with additional loads up to 40,000 pounds obtainable hydraulically. Slight movements of the weights, indicating test bearing friction, are measured by extremely sensitive pendulum-type instruments on the support arms.*

turning axle stubs for initial testing. There are unique devices for comparing the wicking ability of various materials; devices that measure fabric wear in bearing service; and a score of other engineering tests, ranging from the simplest shear strength test stand up to a huge dynamometer in a climate chamber.

The latter machine is perhaps the most dramatic. Housed in a room whose temperature can be varied from —40 to 130F is a highly instrumented test stand on which are mounted two standard journals capable of being driven at equivalent speeds up to 115 mph. The loads on the journal boxes can be as great as 40,000 pounds.

The operator at the panel outside the room can duplicate any load, speed or run desired—over simulated deserts, plains, mountains, through snow, rain, or blazing heat, while complex electronic devices automatically record the data needed for a thorough understanding of bearing performance.

How has the investment paid off in reducing bearing problems? To date the results have been highly gratifying. Out of bearing research have come such developments as the Redipak® Twin lubricating pad and the National® Cartridge Bearing.

The Cartridge Bearing is an entirely new concept in journal bearing design—a complete, sealed bearing and lubricating system that fits a standard journal box after the dustguard well has been cut out. It contains its own oil reservoir, "Redipak" lubricating pad, ventilated cover and seal. The bearing encircles the journal and thus cannot lift or shift under impact. Extensive tests in Brake Shoe laboratories and actual road service indicate that the cartridge bearing may well be the answer to bearing problems. It improves upon the well-known advantages of solid journal bearings by having an exceptionally long life, greater freedom from hot boxes, and by requiring very little maintenance. Compared to roller bearings it stands up to greater impact and is more economical to install.

The Redipak Twin lubricating pad, which contributes to the success of the Cartridge Bearing, is also available for standard journal boxes. This superior lubricating device consists of a specially molded foam neoprene core, compounded to Brake Shoe specifications, contained in a one-piece woven cotton cover, with built-in retainers to hold the pad in position despite impact and shock.

The materials and the design of the Redipak Twin are the result of extensive research into bearing lubrication ranging from investigation of the causes of the hot box through to comparisons of the wicking actions of hundreds of materials, and exhaustive tests of pad design. Long before it was used on the road, the lubricating pad had been tested over thousands of miles, under all possible conditions, in the laboratory.

Make a better wheel . . .

"Develop a wheel that combines the economy of casting with the advantages of a wrought steel car wheel . . ." that was the assignment handed to Brake Shoe wheel specialists and research teams in early 1941. By 1947 the cast steel wheel was an accomplished fact, ready for actual road testing. Since then Southern cast steel wheels have rolled up well over seven million miles of rugged service in special test and, since 1954, have been sold for general freight service. It was approved as standard by AAR on March 1, 1957.

The cast steel wheel provides an apt illustration of teamwork among the laboratories at the Research Center and Brake Shoe production specialists. At the metallurgical laboratory, a unique, double heat-treated, carbon steel was developed and tested which is exceptional in its ability to withstand the combined problems of heat, impact, and wear. The experimental foundry evolved mechanized sand casting techniques for a highly uniform metallic structure, and the machine shop planned automatic, precision machining methods for true concentricity. The brake shoe dynamometer probed the finished wheels for any potential weakness. When the Research Center finally placed its seal of approval on the cast steel wheel, it was truly ready for service.



Brake Shoe Dynamometer *obtains the vital information on braking conditions: stop distance, energy dissipated, and the mean coefficient of friction. The largest and most flexible machine of its type, it can accurately graph the tremendous forces involved in braking a railroad car traveling at 150 mph.*

Solving tomorrow's problems

"Ready for service . . ." this is the role of the hidden world of research—to investigate needs, to define problems, to develop solutions, to pronounce *ready for service.* If the railroading industry is to remain strong and progressive, a dynamic part of our nation's economy, it must turn more and more to the laboratories, the research centers hidden behind quiet walls where the problems of tomorrow are being solved today.

American Brake Shoe feels justifiably proud of its Research Center and its accumulated knowledge. It is a valuable tool at the command of the railroad industry, for it is dedicated to the painstaking task of making tomorrow's trains run even faster, safer, and more profitably.

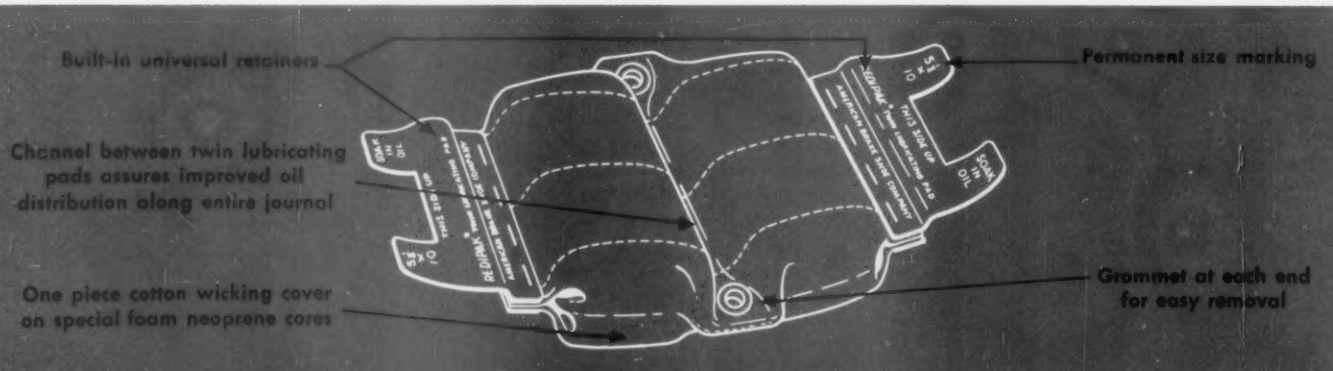


foamex core

woven cotton cover

Both core and cover wick oil!

Both the cotton cover and the Foamex core in Redipak Twin lubricating pads move a steady flow of oil to the journal. The woven cotton cover, unmatched in wicking ability, is lint-free. The foamex core not only provides the proper resilience, but it, too, wicks oil when saturated . . . all adding up to doubly effective lubrication!



Why Redipak® Twin Pads with Firestone* FOAMEX® provide superior lubrication

Superior lubrication that will effectively control hot boxes is assured with Redipak Twin lubricating pads, because of their unique design and the excellent lubricating properties of their woven cotton covers and Firestone Foamex cores.

Take the Foamex core . . . more than just a mechanical filler, this material, which is produced by Firestone to our physical specifications, actually wicks oil when saturated, holds over five times its own weight in oil, and keeps its shape and resiliency under extremes of temperature.

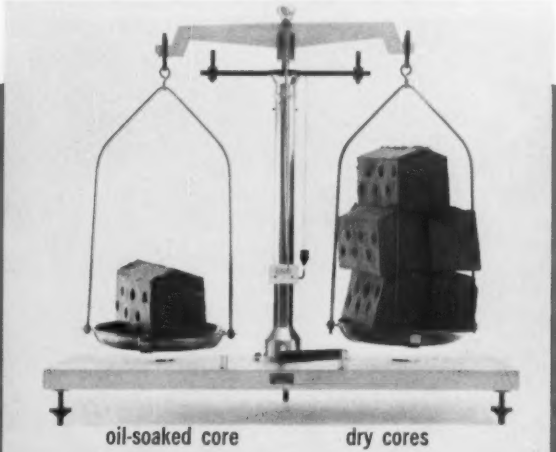
The wicking ability of cotton hardly needs explaining. When woven into a seamless cover for Redipak Twin pads, the result is a highly efficient wicking material that will not lint or glaze. Add to these properties, a unique design that provides superior oil distribution and positive shift prevention and you have Redipak Twin lubricating pads.

*A special formulation of Foamex is used for Redipak Twin pads.

AMERICAN Brake Shoe COMPANY

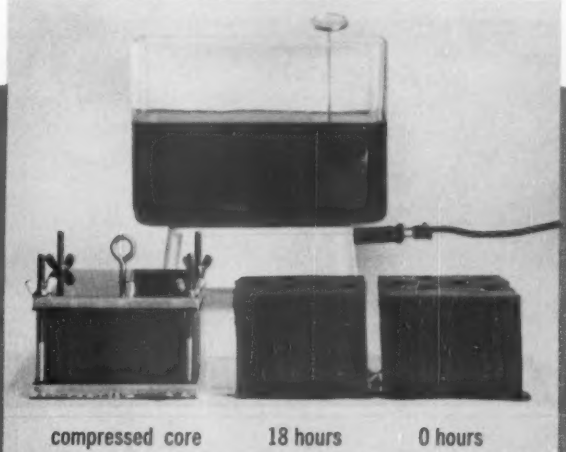
RAILROAD PRODUCTS DIVISION
530 Fifth Avenue • New York 36, N. Y.

Redipak's Foamex core holds over 5 times its weight in oil! Redipak Twin lubricating pads hold an amazing amount of oil. Why? Mainly because of the Foamex core with its millions of interconnected cells. One sample of oil-soaked Foamex weighs as much as five and one-half dry samples of the same size . . . in other words five times its own weight in oil Thus, the Redipak Twin core provides a generous oil reservoir—even when there is accidental loss of free oil.



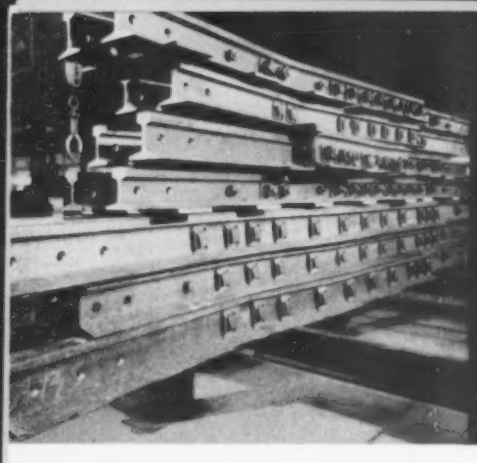
oil-soaked core dry cores

Redipak Twins keep their shape. The Foamex cores in Redipak Twin lubricating pads are produced to our physical specifications to resist taking a set under extremes of temperature. In this demonstration, adapted from actual production tests, one of two identically-sized samples has been compressed to 80% of its original height and immersed in oil at 250° F for 18 hours. At the end of that time, there was no difference in height between the tested sample on the left and the untested sample on the right. Despite compression under heat, the Foamex core held its shape



compressed core 18 hours 0 hours

DESIGNED TO PROGRESS
P R I
MEMBER

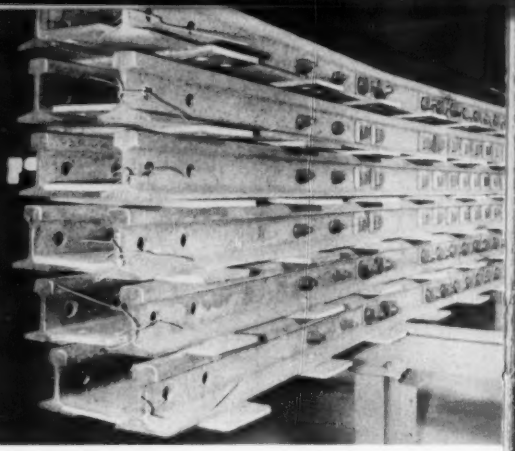


Variety or Simplicity

FROGS

Variety. These rigid frogs are typical of the many varieties of frog design used by the railroads today. Their mechanical designs vary widely — some are self-guarded, some are not; all vary in size and punching of the plates, length, rail section and other details that obviate mass-production and lower costs.

Simplicity. Shown for contrast rather than a recommendation of design, this stack of rigid frogs of the same type symbolize the simplicity of having standardized designs for trackwork components. Eliminating the many variations in rail section and mechanical construction would enable manufacturers to utilize more mass-production techniques, thus reducing railroad costs and inventories, and speeding up delivery times, at no sacrifice in quality or usability.



Custom Trackwork . . . *a Luxury?*

Standardization could mean lower costs, quicker delivery, less inventory, improved design

In the fall of 1952 an official from a railroad that needed turnouts in a hurry saw in a Brake Shoe shipping depot stacks of finished components for a neighboring line that had no pressing need for the parts. Unfortunately, because of minor differences, the turnouts were useless to him. This was perhaps the moment that the Southwestern Standard was born.

It was not long thereafter that a group of St. Louis and Kansas City Railroads, most of whom had been buying from American Brake Shoe Company's East St. Louis plant since 1875, conferred with Brake Shoe and drew up the Southwestern Standard which is based on AREA Plans. The 115 lb and 132 lb rail sections were agreed upon as standard among the group. Once having settled the rail section the companies were able to order a number of trackwork components identical and interchangeable, including the No. 10 spring frog, the 16′-6″, the 22′, and the 30′ switch.

Results? While it is too early for the users of the Southwestern Standard to completely assess the advantages gained through standardization, many officials have noted that their turnout costs are less, their inventories reduced and deliveries almost immediate.

The initial users of this uniform standard were the following:

Missouri Pacific
St. Louis San Francisco
Kansas City Southern
Louisiana & Arkansas
Terminal Railroad Association of St. Louis
Kansas City Terminal
Quanah, Acme & Pacific
Galveston, Houston & Henderson

Other railroads are contemplating adopting these standards and may soon follow.

Turnout costs are significant—in a section of mainline track they average about 10% of the total track laying cost during the life of the section; in a yard this figure varies roughly between 25% and 40%. American Brake Shoe Company has come to the conclusion, based on many years of experience in the field of manufacturing trackwork components, that it is uneconomical for this equipment to be bought in what amounts to custom-made lots—custom-made because nearly every individual standard differs from the others, even when the same rail section is being used. Here are the reasons why we feel as we do.

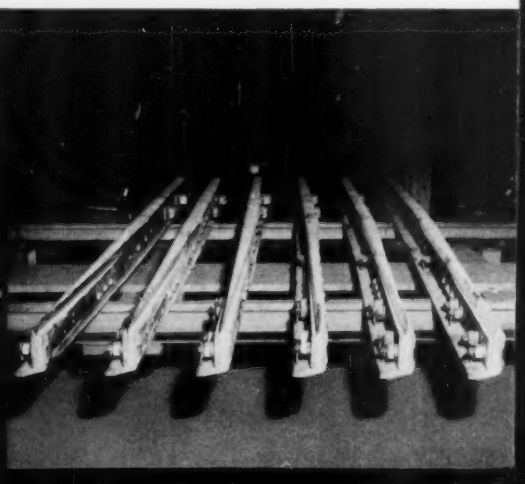


Variety or Simplicity

SWITCH POINTS

Variety. These switch points are typical of the many variations existing today in rail section and mechanical details, such as reinforcement, clearance at the point, and position of rod bolt holes.

Simplicity. On the other hand, standardizing would help clear up today's multiplicity of design. Lack of interchangeability has forced manufacturers of trackwork components to custom-make each order.



Standardization would lower costs

It is extremely difficult to forecast the amount precisely, but there are indications that savings to railroads that would be able to derive advantages from standardization would be at least 5% of present costs. How would this be accomplished? Mainly because manufacturers would be able to produce parts at lower costs, through the use of mass-production techniques maintained throughout a more stable business cycle.

Some special designs, for example, cost as much as 25% more than those based on present AREA trackwork plans. Why? For one thing, they may require set-up and planing times that are as much as 2½ times that of a standard design. Add to this the cost of a separate inventory of plates, bars, castings, and forming dies required—all of which are unusable on another standard—the extra supervisory, engineering and accounting time needed for a special item, and the picture becomes clearer. Multiply this whole complex by the number of standards that the manufacturer supplies; add to this a high labor turnover due to fluctuating business—and the savings obtainable through standardization come into even sharper focus.

The question has been raised, "Would the savings possible at the manufacturing level through standardization be passed on to the railroads?" The answer is "Yes." Lowered costs would enable manufacturers to price more competitively, thus stabilizing railroad costs at lower levels.

Would speed delivery, reduce railroad inventory

Streamlining of turnout production would also mean quicker delivery to the railroads; in fact, deliveries could often be made as fast as orders can be processed—rarely longer than 30 days. Under the present system of custom-made parts, delivery times of 120 days are not unusual.

It has been estimated that it costs the railroads at least 20% over the investment to carry finished materials, including interest, depreciation, obsolescence, storehouse costs and taxes. Standardization would help the railroads reduce their inventory of fabricated parts, and, at the same time, match delivery dates as closely as possible to anticipated dates of installation. The manufacturer would, in a sense, "carry" the inventory, since he would stock some items and deliver others on short notice.

Moreover, in extreme emergencies, neighboring railroads would be able to borrow interchangeable parts from each other. This is impossible with present standards.

Simplify trackwork operations and produce better designs

According to one railroad man, "The only thing that's standard about our standards is that they are constantly changing." Standardization would reduce engineering costs and simplify operations. The very fact that it would require industry approval for revisions would discourage trivial alterations, and thus have, as one official said, " . . . a fly wheel effect that would tend to smooth out operations."

Standardized plans would not only reduce the tendency to tinker, but they would also result in better designs. Having the experience of the entire industry focused on a standard would naturally produce a better product . . . and certainly at less cost to the individual railroads.

"But," one might ask, "wouldn't a single standard stifle development?" The answer is "No." Suggested changes to a standard would receive the benefit of objective scrutiny by the entire industry, thus fostering worthwhile developments while discouraging the trivial.

Making the transition period easy

The full benefits of standardization would not be felt by the railroads immediately—it might take perhaps five years before the minor annoyances of transition would be entirely eliminated. But the conversion need not be as difficult as it might seem at first glance. In fact, many railroads have been through it before, when they changed their own standards. For one thing, contrary to what might be expected, inventory will take a downward trend. Past experience has shown this to be true. Many opportunities to use a new design at no additional cost have been found—during the laying of new track; during relaying, where the normal tendency toward a heavier section usually requires extensive switch remodeling; and during general maintenance work, whenever obsolete turnouts are replaced. An analysis of track-laying plans would reveal many ways to make the transition to standardization relatively smooth.

How far have we gone?

The way toward standardization has been pointed out by the AREA trackwork plans. While sometimes criticized for their complexity and variety, these excellent compilations have been invaluable to railroad progress. That they are perhaps not yet a clear consistent standard—as some have maintained—can be understood in the complexity and the history of trackwork. According to many experts, simplification is needed before the AREA plans are to become entirely useful as a standard. Others feel that a complete revision of the standards, based on a sweeping study of existing needs, is necessary, and that such a study would be well worth the effort.

To what extent have the railroads used the AREA Standard? A recent survey of the major railroads has indicated that almost 50% of their existing standards are variations of the AREA plans and most of the remainder bear no resemblance to the plans—adding up to almost 100% *non*interchangeability.

Where do we go from here?

The example of the Southwestern Standard shows that standardization can be made to work when a group of railroads agree to submerge differences of opinion into a carefully worked out plan for the common good. We sincerely hope that, in the interests of better railroading, this spirit of cooperation will continue to spread. The predicted results—lower costs for turnouts, quicker deliveries, less railroad inventory, greater efficiency—will be well worth the effort. Fortunately the way to cooperation is open: the industry has its several excellent associations representing the great variety of railroad experience. We at American Brake Shoe will continue—as we have in the past—to make our services, our wealth of experience based on many years of designing and manufacturing trackwork components, available to the railroads in any effort to promote sound and progressive standardization. The means are at the industry's disposal; the way is open. It is time to make another move ahead.

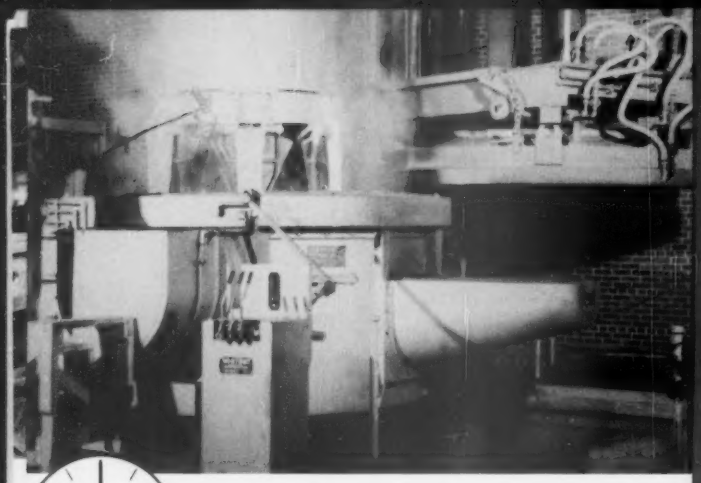
What some users of the Southwestern Standard think.

"Since the manufacturer would be able to make quicker deliveries, the railroads can reduce inventories and not have to carry such a large stock on hand . . . In going from individual designs to standardized parts, actually there is practically no sacrifice in obtaining material which is fully capable of rendering dependable and safe service." E. F. Salisbury, Chief Engineer, K. C. S.—L & A Railway Companies.

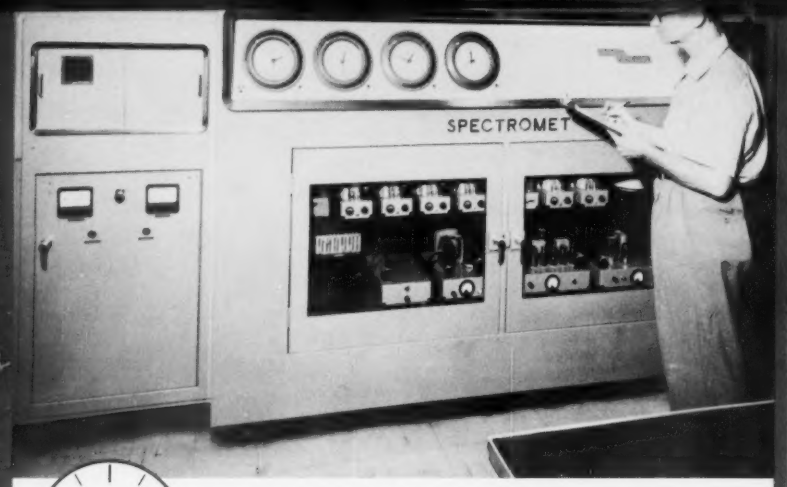
"We would like to see an even greater amount of interchangeability. It makes economic sense . . . Nonstandard parts, due to their special nature, cause long waits for deliveries and are more expensive. Some standardized trackwork materials would normally be held in stock by various manufacturers." A. B. Chaney, Engineer Maintenance of Way, Missouri Pacific Railroad Company.

"Standardization of rail sections and turnouts—permitting mass production—will and has reflected a savings in cost and shortened delivery time. Inventory stocks can be materially reduced and a saving made in maintenance and repairs." Thomas W. Avery, Chief Engineer, Kansas City Terminal Railway.

"The conception and adoption of the Southwestern Standard has definitely lowered cost of material, improved delivery dates, reduced inventory and has produced many intangible economies." V. C. Hanna, Chief Engineer, Terminal Railroad Association.



9:00 a.m. Charge! With an air-splitting roar the electric furnace swallows the rigidly selected steel scrap, and the electrodes take their bite. In order to obtain Southern wheel's unique carbon steel, with its precise blend of alloying elements, the charging mixture must be an exact balance of selected and weighed materials. Now the strict timetable of quality control begins . . .

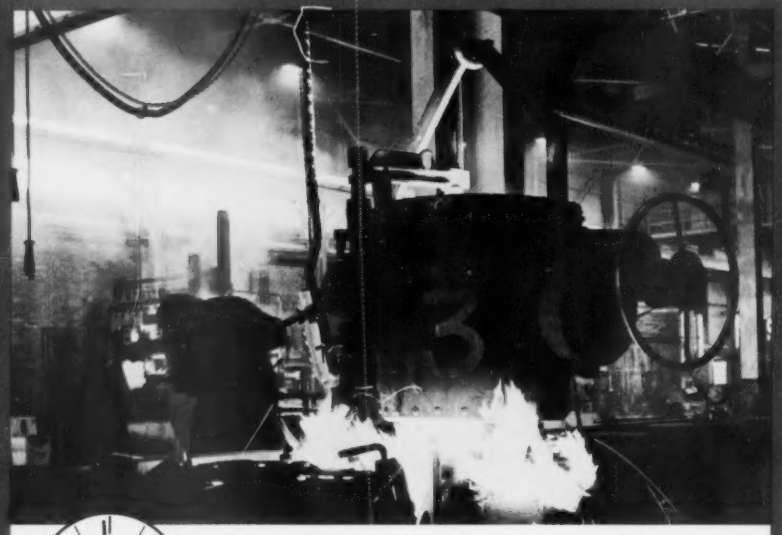


10:40 a.m. Rapid steel analysis. Less than two hours after charging the furnace, the last analysis of alloying elements in the molten metal is made on a direct reading spectrometer. Finished in a matter of minutes (as compared to older methods that required several hours) the analysis is rushed by air tube to the metallurgical control engineer, and the steel is ready to . . .

from steel scrap

to rolling wheel

A Tough Timetable

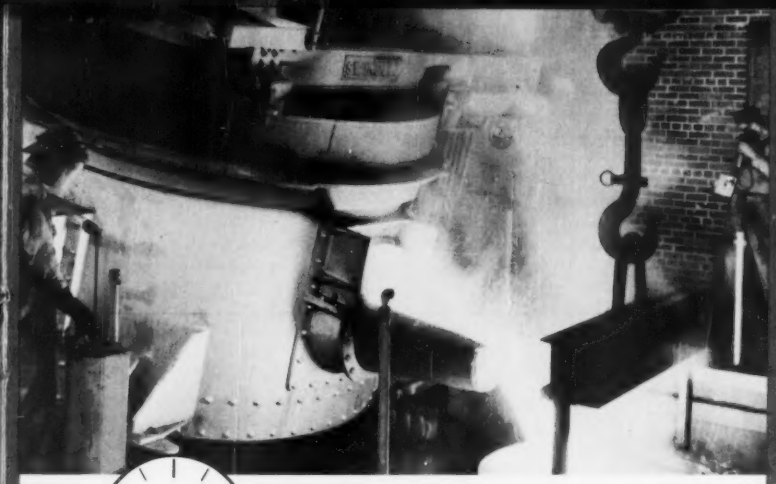


10:59 a.m. Cast! The mechanized conveyor moves the molds into position and the steel is poured. There is a hiss of flame and flung spark as the metal hits the mold cavity. Made on highly automatic equipment, these molds are engineered to utilize the strength of cast steel to the utmost. Slowly cooling, the wheel molds move on to shakeout and . . .

rigidly timed quality control packs more value in Southern® cast steel wheels

Casting quality into Southern steel wheels—quality that means more value for the dollar—is a dramatic, almost split-second job. From the moment the carefully selected scrap hits the electric furnace to the precision machining of the hub and tread, skilled experts commanding a battery of electronic measuring equipment call the shots in this exciting casting story.

Result? Freight service wheels of uniform quality that consistently roll farther and cost less—*Southern cast steel wheels.*



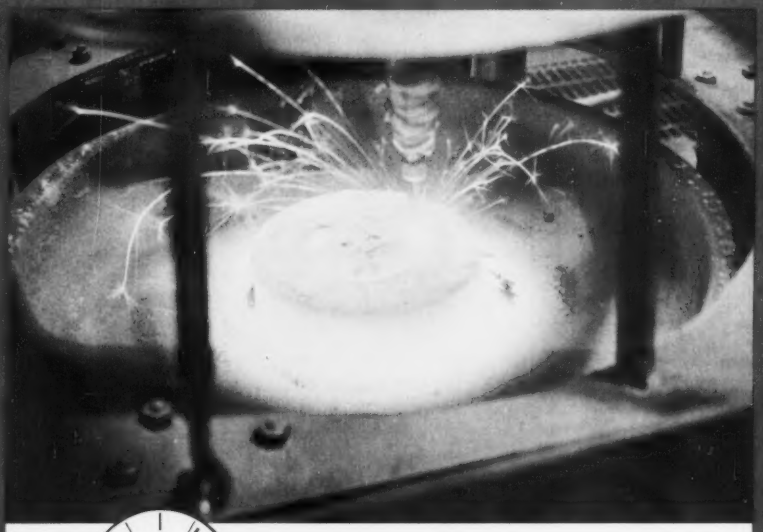


10:45 a.m. Pour! The furnace tips and white hot metal thunders into the reservoir ladle. The timing is growing more delicate as the seconds pass, for once out of the furnace, the steel begins to cool. Under the ever-watchful pyrometer of the metallurgical control engineer, who keeps a careful record of time and temperature, the steel is transferred at the right moment to the pouring ladles, to await the . . .



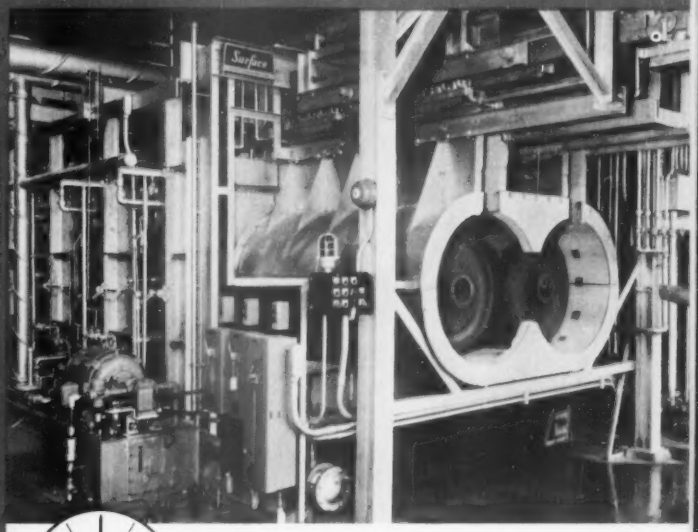


10:58 a.m. Approach to casting temperature. The metallurgical control engineer watches the moving temperature graph of the thermocouples that have been dipped in the pouring ladles. Southern cast steel wheels are cast only when the molten steel is within a very narrow range of temperature. This is one of the secrets of Southern wheel quality. At the right moment the wheels are . . .





12:07 p.m. Rough cut of hub. The conveying system is carefully timed to bring the wheel to the next critical step: rough cut of the hub. An oxy-acetylene torch smoothly and automatically slices out a glowing cylinder of metal from the wheel's center in minimum time. In this way heat effects are eliminated. After slow and carefully timed cooling in the annealing pits . . .





7:00 p.m. Heat treatment. The wheels are moved to the two-stage, heat-treating furnaces. Here they are given an electronically controlled heat treatment that lasts about 16 hours, insuring a refined grain structure and exceptional toughness. The wheels are then shot-blasted, inspected and ready for . . .



Precision machining. The cast steel wheels are machined at a single chucking on special automatic vertical turret lathes, insuring dimensional accuracy and true concentricity. All that remains now is final inspection and the wheels are off to their job of providing the railroads with more value for the dollar.

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Brake Shoe | TON-MILE



TYPICAL AIR HAMMER GANG OF 21 MEN REDUCES TO ONLY 9 MEN, USING RACOR DUAL DRIVERS



FACTS SHOW WHY

Racor® Dual Driver can pay for itself in 2 months!

Low-cost driver reduces labor costs and speeds rail laying

It's true! The new Racor Dual Driver DD4 will often pay for itself in two months or less of rail laying — and at the same time actually speed the operation!

Here's how. A typical rail laying gang using individual air hammers usually consists of at least 21 men. Using two Racor Dual Drivers with automatic spike positioners, the gang is reduced to 9! Moreover line spiking with the Dual Driver is done more quickly and uniformly.

And here's why. One man with a Dual Driver can drive twice as many spikes as with any other spike driver — without fatigue or need of a relief. After spikes are distributed to the tie plate holes, the DD4 positions them for driving, drives two spikes at once, and automatically resets the next pair. And not only that . . . the Dual Driver can also drive Racor Studs!



AMERICAN **Brake Shoe** COMPANY

RAILROAD PRODUCTS DIVISION
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How UP 'Aerotrain' Paid Off

Late last year, the Union Pacific leased one of General Motors' two experimental "Aerotrains" and put it on a new schedule between Los Angeles and Las Vegas. Here is the first comprehensive report of how the trial worked out, adapted from a report presented at the meeting of the American Association of Passenger Traffic Officers. Its author is N. E. Luthi, general passenger agent of the UP at Los Angeles, who "lived with" the "Aerotrain" while it was on his railroad.

It may seem anticlimactic to report UP experience with the "Aerotrain" since it was replaced by a conventional lightweight train on September 15, said Mr. Luthi. But the experiment was most successful. It proved to management that a relatively short-haul train can be a profitable venture where there is a traffic potential—provided it is merchandised properly.

Even more important, in his opinion, is the fact that management had the faith and confidence to authorize additional passenger train-miles despite the prevailing trend to curtail passenger train service.

Prior to the inauguration of the "Aerotrain" service on December 18, 1956, Las Vegas traffic was handled in three transcontinental trains: the Domeliners "City of Los Angeles" and "City of St. Louis," and the "Challenger" Domeliner operated during the summer and the year-end holiday period.

Obviously, the UP's first concern was to accommodate long-haul traffic, which left very little available space between Los Angeles and Las Vegas. The road was under constant pressure from prospective passengers and business people at Las Vegas to provide more accommodations. So it was decided to lease the "Aerotrain" on an experimental basis for six months. This lease was subsequently extended to September 15.

After a two-day exhibition tour for the press and travel agents, daily service was established on December 18, 1956. The train was christened the Streamliner "City of Las Vegas," but soon was nicknamed the "Crap-Shooters' Special" by many of its regular patrons. With only one set of equipment, a daily round-trip schedule was necessary. The train left Los Angeles at 9 a.m., picked up passengers at four intermediate stations in California, and arrived at Las Vegas at 4 p.m. Returning, it left Las Vegas at 5:30 p.m. and arrived at Los Angeles at 12:15 a.m.

"All-You-Can-Eat" Meals

The schedule made it necessary to provide meal service. Since a regular dining car set-up was not possible nor could any structural changes be made in the cars, the seats were removed in one coach and a serving counter installed for buffet meal service. Since only light meals could be furnished and passengers would be required to carry their trays from the buffet car to their seats, it was decided to offer free meals as a "gimmick" to attract traffic and avoid complaints.

A credit of $1.50 each way from every ticket was allotted to the dining car department to offset its expense. Prior to May 1956, the UP had a $12 round-trip incentive fare to Las Vegas which was quite productive, and by charging the current round-trip coach fare of $16.35 (less the $3 meal credit) the rate would still net $13.35 in rail revenue. Family plan tickets were honored.

The food was prepared in advance at the road's commissary for the round trip and was placed aboard at Los Angeles prior to departure. One chef and two waiters were assigned to the buffet car. A continental breakfast, including fruit juice, sweet rolls, doughnuts, dry cereal, milk and coffee, was provided after departure. Luncheon included a selection of cold meats and cheese, fried chicken, three different salads, bread, beverage and pound cake. The supper meal on the return trip included a hot dish such as beef stew, spaghetti and meat balls, or sliced beef and gravy, salads, beverage and fruit cake.

Meal service was practically continuous, and "seconds" were available to those who wanted more. Passengers occupying window seats could attach their trays to the side of the car, while those in aisle seats placed their tray on their laps. Disposable paper containers and plastic utensils were used exclusively, and the chair car attendant in every two cars placed all refuse in paper bags at the rear of each car, returning the trays to the buffet car.

Twelve seats were removed from the bar-lounge car to allow for a simple bar, leaving the remaining 28 unassigned seats for bar patrons. A bartender and a waiter were assigned to this car. The bar was equipped with an Auto-Bar automatic dispenser, serving a one-ounce drink which which sold for 75 cents.

In the absence of a baggage car, no checked baggage was carried. Hand luggage was stored in bins underneath each coach, except at intermediate stations

The Las Vegas market

Las Vegas has experienced a tremendous growth in recent years. With the recent opening of the $16 million Tropicana, there are now 11 major hotels along the "Strip" with a total of more than 3,000 rooms. Major downtown hotels, including the new Fremont, offer an additional 500 rooms, and there are countless motels.

Las Vegas is served by three major airlines—TWA, United and Western—and one local airline, Bonanza. The airlines presently are averaging about 46,000 passengers a month in and out of Las Vegas, according to their own figures. A good, heavily traveled highway extends between Los Angeles and Las Vegas, which are 288 miles apart. The Union Pacific is the only railroad connecting these cities; rail mileage is 335.



The 'City's' Consist

The "City of Las Vegas," a General Motors "Aerotrain," consisted of a 1,200-hp diesel unit, which contained the auxiliary equipment for light, heat and air-conditioning, and nine coaches, two of which were converted into dining and bar-lounge facilities. The seven passenger cars each contained 40 reclining seats and a rest room, yielding a total train capacity of 280. On April 18, another coach was added to the train, raising the seating capacity to 320. (Each GM "Aerotrain" originally consisted of 10 cars.) Seats were reserved by car number only. An allotment of space, both going and returning, was given to various offices in southern California and Las Vegas.

where it was placed in the interior of the car.

From December 18, 1956, through September 14, 1957, this train carried 96,853 passengers both ways. July was the best month with a total of more than 13,000 passengers. Loadings generally were heavier on week ends, although family plan and tourist traffic produced good weekday loadings during the summer. For the period December 18 through August 31, average revenue per train-mile was $4.12 and average out-of-pocket expense per train-mile was $3.81. In July, revenue per train-mile was $4.67 and expenses per train-mile were $3.82.

Revenues exceeded out-of-pocket expenses every month but May, when loadings were somewhat light and extra maintenance expense was involved. These expenses included the cost of furnishing free meals, and maintenance costs were somewhat high because this equipment was not of standard construction.

Incidentally, the $1.50 credit per ticket plus the bar revenue almost offset the expenses of the buffet and bar cars. In August, the buffet and bar operations actually showed a profit above $1,700.

The "City of Las Vegas" definitely produced additional traffic for the Union Pacific. Loadings were far above what the three transcontinental trains formerly handled to Las Vegas. While statistics on the precise increase are not available, it was determined that 23,434 more round-trip coach tickets from Los Angeles to Las Vegas and return were sold in the first eight months of this year compared with the same period a year ago.

Although many factors are involved, such as the increase in population and growing popularity of Las Vegas, the UP management attributes much of this gain in traffic to this new service. Interviews with passengers developed that many of them formerly drove to Las Vegas.

Mr. Luthi reported very few complaints and countless commendations. The complaints came from regular patrons of other trains, who found the "Aerotrain" uncomfortable and cramped in comparison. While it rode fairly well and noise was not too excessive, it did not measure up to regular equipment in this respect.

Mr. Luthi believes the lack of complaints was the direct result of furnishing free meals—offering something for nothing—and the fact that many of the passengers had never traveled on a train before. One Army officer, after having some milk spilled on his trousers by a child in the buffet car, was overheard to remark, "Well, guess I can't complain about this when it's free." Generally, the "Aerotrain" was accepted by most people as evidenced by the repeat business.

Why UP Gave Up the Train

The "Aerotrain" "did a job for us," and proved that such a service was desired by the public, Mr. Luthi declared. "It was a profitable operation. However, the train had certain limitations which did not make it suitable for this service.

"Overflow cars were not available and thus our capacity was limited. We had to refuse to handle any group of 50 or more on week-ends, since the train was generally sold out to individual patrons. The buffet and bar cars were makeshift arrangements and created considerable problems. The waiters could not get behind the counter to serve the food, and the bar car did not provide suitable lounging facilities.

"We had frequent air-conditioning failures, since the cars did not have the cooling capacity to withstand the intense desert heat. There were quite a few mechanical failures which necessitated cutting out certain cars, and there were no substitute cars to replace them. The general maintenance of this train was a headache since, as previously mentioned, none of the equipment was of standard construction and all repairs were a major project.

"The regular diesel could not be replaced for repairs because of the auxiliary equipment it carried. When this engine failed, it still had to accompany the train, pulled by another unit. The train required a helper locomotive at two points on its earthbound run. Actually, the "Aerotrain" was operated every day, but only through the Herculean efforts of our night mechanical forces. Finally, we were paying $225 rental per day for this equipment."

Nevertheless the experiment with the "Aerotrain" was a success, in the view of the UP, in that it proved the need for this new service and showed that it could be profitable.

The free meal "gimmick" was of course credited for much of this particular train's popular acceptance. It appears, said Mr. Luthi, that people will accept some inconvenience when they think they are getting something for nothing.

However, the "Aerotrain" definitely had its limitations, and it thus was replaced on September 15 by a lightweight conventional train, consisting of two diesel units, a baggage car, a "Pub" bar-lounge car, a "Chuck Wagon" buffet car converted from a lunchcounter diner and serving the same free meals, and as many 48-seat chair cars as are required to handle the traffic. The road anticipates that while this equipment will be more expensive to operate, it will gain some savings in reduced maintenance costs.



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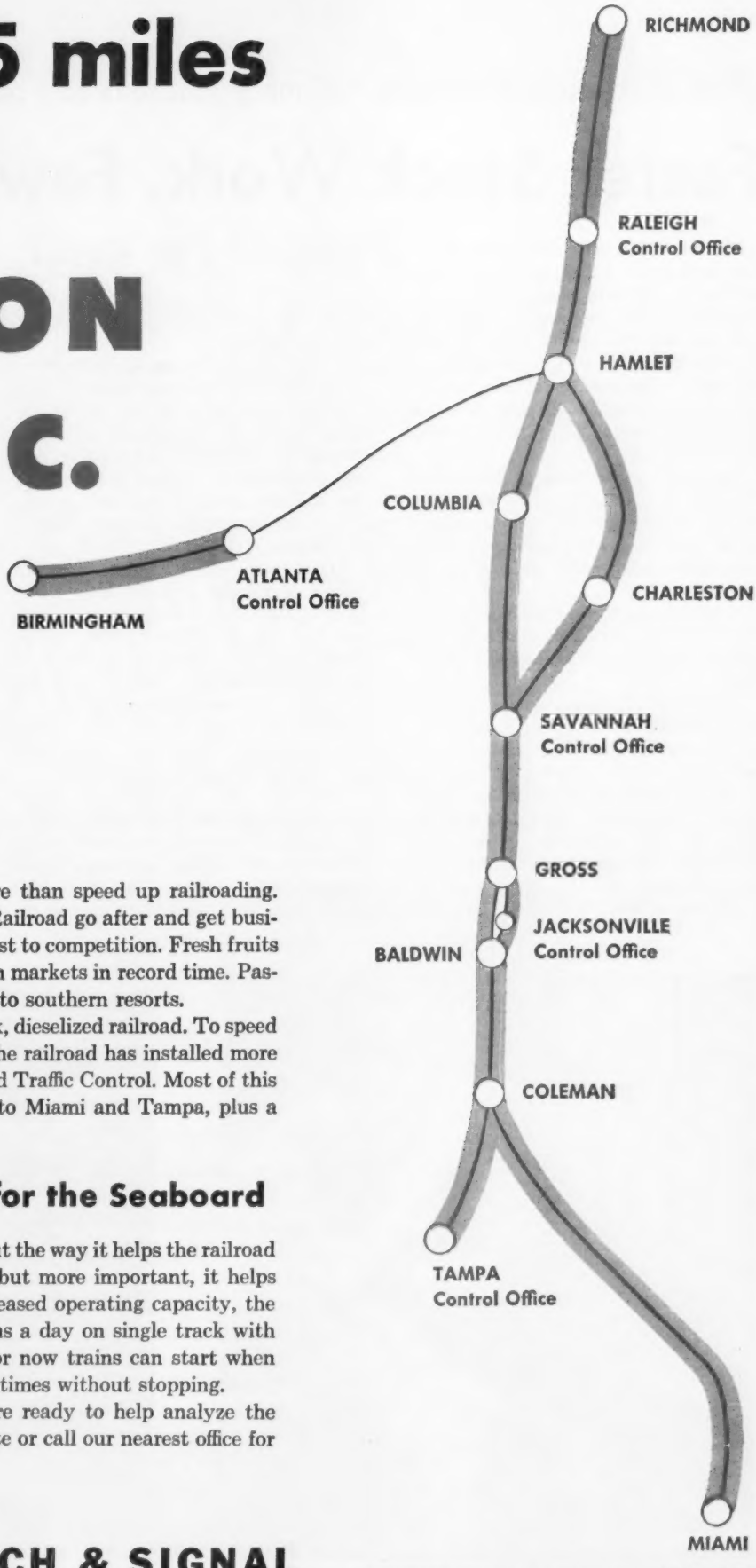
DIESEL LOCOMOTIVES AND ENGINES • MOTOR CARS AND RAILROAD EQUIPMENT • ELECTRIC MOTORS • GENERATORS • PUMPS • SCALES • WATER SERVICE EQUIPMENT • HAND LAMPS

Seaboard wins business



1565 MILES OF RAILROAD are controlled by UNION C.T.C. from five locations at Raleigh, Savannah, Jacksonville, Tampa, and Atlanta. The office at Savannah, where this machine is located, controls 677.7 miles of territory.

with 1565 miles of UNION C.T.C.



MAP OF PART of Seaboard Air Line Railroad with C.T.C. territory shown in red.

Centralized Traffic Control does more than speed up railroading. It has helped the Seaboard Air Line Railroad go after and get business that might otherwise have been lost to competition. Fresh fruits and vegetables are shipped to northern markets in record time. Passengers get a quick, comfortable ride to southern resorts.

Seaboard is essentially a single-track, dieselized railroad. To speed up traffic and eliminate bottlenecks, the railroad has installed more than 1565 miles of UNION Centralized Traffic Control. Most of this is on the main lines from Richmond to Miami and Tampa, plus a stretch from Atlanta to Birmingham.

What C.T.C. is doing for the Seaboard

Seaboard officials are enthusiastic about the way it helps the railroad do a better job. It saves money . . . but more important, it helps make more money. And with the increased operating capacity, the railroad has run as many as 113 trains a day on single track with C.T.C. There are fewer delays too, for now trains can start when ready and make close meets . . . oftentimes without stopping.

UNION traffic control engineers are ready to help analyze the traffic problems for your railroad. Write or call our nearest office for the complete story.

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY
SWISSVALE, PENNSYLVANIA

NEW YORK . . . . . PITTSBURGH . . . . . CHICAGO . . . . . SAN FRANCISCO

C&IM purchasing techniques roll three functions into one for . . .

Faster Stock Work, Fewer Errors

Purchasing records were a week to ten days behind orders being processed; stock balance records were running three weeks late; inaccuracies cropped up inevitably.

It was time for a change in the purchasing department of the Chicago & Illinois Midland. Department offices were in downtown Springfield, Ill., but the stores department was in the yards in the outskirts of the city.

Inventory records were at three different locations: purchase records at the purchasing department offices, stock records at the yard offices, and pricing records at still another point—in the accounting department.

Consolidation was the solution, according to George D. Wilson, C&IM purchasing agent—consolidation and streamlining.

Results of the new systems put into effect include an inventory control system "more accurate than any previously achieved."

"We consider ourselves to be in unusually poor shape" under the new system, Mr. Wilson reports, if the road's $1 million inventory of stocked materials is ever as much as 0.5% off count.

All transactions, Mr. Wilson says, can be posted within 24 hours after they are conducted. "Accuracy has improved markedly," he says, "and we now are able to provide immediate and up-to-date answers to inquiries.

"If an executive wants to know what oil we are using and how much of it, it is a simple job to check the visible reference file for the information. If a using department asks how long it has been taking to consume a given quantity of an item and how much of that item is available at the moment, the answer is right in the file.

"There is no need to send a man out to the stock room to conduct an emergency count of the item because postings have lagged. The revision of the purchasing-stores system has enabled us to do our job—and do it better—with less personnel. Furthermore there has been a reduction of clerical effort in the accounting department, which no longer must maintain our pricing records."

Installation of 12 Remington Rand Kardex cabinets made the more efficient consolidations possible; the road's entire inventory has been catalogued and assigned code numbers conforming with AAR classifications and C&IM numbering.

For each of the 13,000 items inventoried by this relatively small coal-haul road, there are two cards in a visible reference file. On one, vendor information and the item description are posted with orders noted as they are placed. The other card is the stock record containing weight and packaging data, pricing information and notations of receipts and issues of the item.

When parts or supplies must be purchased, a requisition is made out. A clerk posts the requisition number and the quantity ordered on the stock record.

When the order is actually placed, the stock record information is completed with entry of order number, discount, price and shipping date. Accuracy of the shipment finally received is assured by checks against copies of the stock record entries in the stock room.

Some maintenance and supply items are ordered from vendors on the basis of special requisition from user departments, but most orders are placed by the purchasing department on the basis of its inventory records.

Use of a "Graph-A-Matic" chart which gives a ready indication of stock supplies keeps this information current.



SIMPLIFIED POSTING of stock inventory records has been achieved by the Chicago & Illinois Midland through use of 12 file cabinets like this. They hold records for 13,000 maintenance and supply items.



GASKET CHART is used to expedite selection of items from storage shelves. Code number affixed to drawing directs this stores employee to the proper bin, enables him to make quick check of quantity on hand.

Protect the **heart** of every mile of track...

— *install*

IMPROVED HIPOWERS

THE SUPER POWERED SPRING LOCK WASHERS

—with reserve power that holds rails and joints

TIGHTER, LONGER!



Improved Hipowers maintain constant bolt tension, keep bolts tight, absorb shocks, protect rail ends. These super-powered railway spring washers withstand the terrific stresses and strains, and the constant pounding of main line traffic. Reduce maintenance costs by installing National Spring Washers.

A COMPLETE LINE OF RAILWAY SPRING WASHERS

The NATIONAL LOCK WASHER COMPANY

Serving Industry Since 1886 — NEWARK 5, NEW JERSEY, U.S.A.

CLEVITE

...the economical answer to one of railroading's hottest problems!

MAKES IT!

Practical railroaders joined with the world's largest, most experienced independent manufacturer of sleeve-type bearings to produce the Clevite Cartridge. The result—a change-over journal bearing, built to exceed AAR requirements for "hot box" elimination, and meet the high quality-with-economy standards of its maker—Cleveland Graphite Bronze Company Division of Clevite Corporation, Cleveland 10, Ohio.



AAR APPROVED
for limited application in interchange service.

NEW, PERMANENT CHANGE-OVER JOURNAL BEARING, FOR AMERICA'S 2 MILLION FREIGHT CARS

Less Modification... Lower installing costs

Modification: Remove waste ribs and dust guard pocket. Machine journals and collars to standard AAR dimensions with a practical (.005-inch) tolerance.

Installation requires little time and only a few standard tools. Low cost renewal of all working parts.

Successfully tested by Clevite, duplicating extremes of service and weather to the equivalent of 12 years of hard operation. In 2 years of road service, the unit was completely free of trouble—leakage of oil nearly zero. Continuing road tests are now in progress.

Get complete data now on all the features and performance of the Clevite Sealed Sleeve Bearing Cartridge. You'll find the answer for a permanent, soundly engineered conversion to lick your "hot box" problem.

You are invited to join the railroads now service-testing the ***CLEVITE SEALED SLEEVE BEARING CARTRIDGE***

STANDARD CAR TRUCK COMPANY

DISTRIBUTES IT!

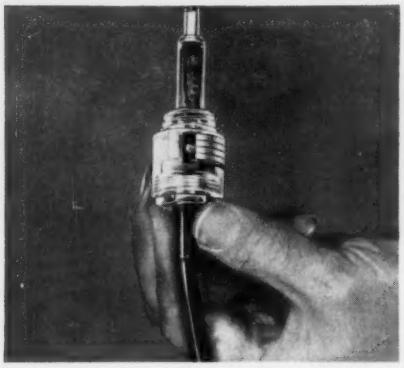
The largest supplier of stabilized trucks (over 450,000 Barber car sets sold) backs every Clevite Cartridge with time-earned railroading experience and engineering skill. Ask for a representative to call and discuss your requirements. Write—

STANDARD CAR TRUCK COMPANY
332 S. MICHIGAN AVE.
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IN CANADA:
CONSOLIDATED EQUIPMENT COMPANY, LTD.
MONTREAL 2, QUEBEC

New Products Report



Battery Thermostat

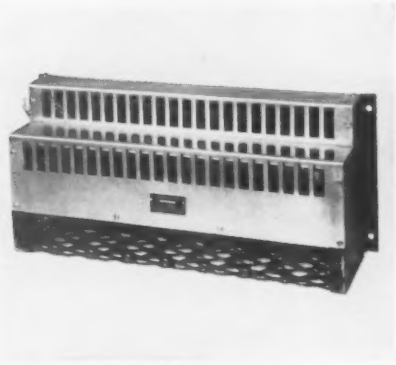
A new battery temperature control has two parts, a mercury contact thermostat set at 100 deg F, and a dustproof bottle relay. It is said to prolong life of lead acid storage battery sets by keeping the electrolytic solution from over-heating due to high charging rates. The non-corroding thermostat tube is in a transparent lucite housing having a two-conductor lead. Thermostats are 3⅝ in. long and weigh 6½ ounces. Various relays are available. *Vapor Heating Corporation, Dept. RA, 80 East Jackson blvd., Chicago 4* •



Epoxy Resin for Splices

Embedding tap or branch electric cable splices in epoxy resin is now possible using a new Scotchcast splicing kit. Splices can be insulated in the field in less than 10 minutes. Once a splice has been cast, it is permanently encased in a block of insulating resin.

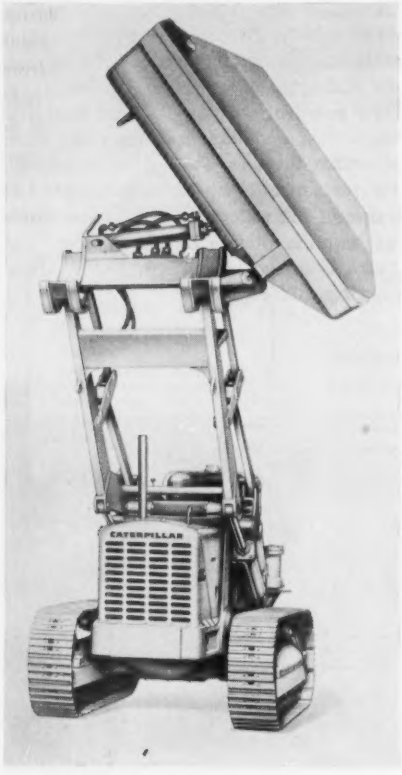
The new kit consists of a two-piece plastic mold, two plastic spouts, strips of sealing tape for the mold joints and a Unipak container of epoxy resin. *Minnesota Mining & Manufacturing Co., Dept. RA, St. Paul 6, Minn.* •



Locomotive Cab Heater

The electric heater marketed as Convectair is said to provide heat in a locomotive without itself reaching a high temperature. A large amount of air is circulated without the need of a fan. More or less radiant heat is projected to warm the floor, depending on the number of heating elements energized.

On most locomotives, there is sufficient auxiliary generator capacity to supply two 1.6-kw heaters. *Ogontz Controls Company, Dept. RA, 8029 York Road, Elkins Park, Philadelphia 17, Pa.* •



◄ Bucket Attachment

Caterpillar Tractor Company has introduced a new side dumping bucket attachment for its No. 933 (Series E) Traxcavator. The device permits in-line loading, eliminating the need for constant turning in order to dig and load. Increased production and lower maintenance costs are reported to be major advantages. Side dumping is by use of a hydraulic cylinder on the bucket carriage. It unlocks the bucket from the carriage and swings it into a 64-deg side dumping angle. *Caterpillar Tractor Company, Dept. RA, Peoria, Ill.* •

Diesel Fueling Coupling

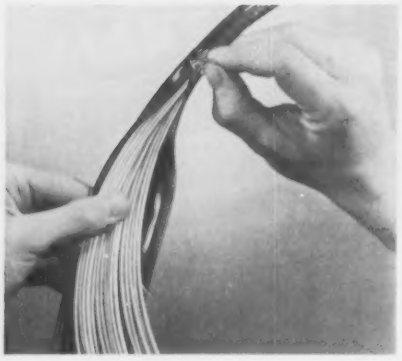
Employing the Roylyn "Quick-Lock" principle, incorporating an inclined plane and balls, this coupling is positively connected or disconnected from the mating nipple simply and easily with only a quarter-turn of the collar-cam assembly. The audible "click" of the balls dropping into their locking pocket, plus the visible "locked" marking on the collar, indicates what is described as a leakproof, spillproof and vibration-proof connection. *Airaterra, Dept. RA, 1706 Standard ave.. Glendale, 1, Cal.* •



Low-Cost Breaker Enclosure

A compact handle-through-cover enclosure for GE 2-pole and 3-pole plug-in Type TQL circuit breakers is available. With 240-volt a-c, 10- through 50-amp breakers, the enclosure can be used for individual or centralized control of equipment. It can be used as a main disconnect for remote branch circuit panels and to protect insulated conductors. The device has groundable neutrals, provision for wire sealing covers and padlock locking. *General Electric Company, Circuit Protective Dept., Dept. RA, Plainville, Conn.* •

New Products Report



Zippertubing for Wiring

Zippertubing for wiring harnesses and for enclosing and protecting multiple runs of wire is now available. It consists of a plastic jacket with a zipper-type closure.

The zipper pull-tab may be unzipped and re-used where required or permanently sealed. When sealed, the seam will withstand a linear strength test of 45 psi. Sizes range from ⅜ in. in diameter and larger in increments of ⅛ in. The tubing is available in continuous lengths to 1,000 ft. *Zippertubing Company, Dept. RA, 8th and S. San Pedro st., Los Angeles* •

Plastic Refrigerator Door

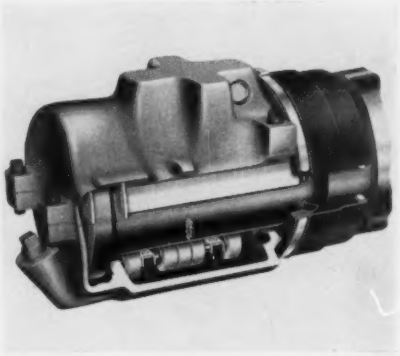
Unaffected by salt water or dampness and providing thermal insulation qualities higher than wood, this door, according to its manufacturer, will not warp. These properties were established by checking on actual installations over predetermined periods of time. A unit weighing 65 lb replaces doors weighing up to 350 lb. The plastic unit can be easily controlled with one hand. Requiring lighter hardware, the door can be used on railroad cars. *Strick Plastics, Dept. RA, Perkasie, Pa.* •



Transistorized Megaphone

The new Motorola Power Voice megaphone with 15 watts of amplifier output is fully transistorized. The unit is completely self-contained with detachable microphone, amplifier, batteries and speaker all in one compact, 8-lb package. The megaphone has a convenient volume control to provide maximum range at all stages of battery life. Effective range varies from ¼ to ¾ mile, depending on ambient noise level. The megaphone is held to the mouth by its pistol handle, or slung from the shoulder with an attached carrying strap and used with its detachable microphone. To operate, one merely squeezes the trigger on the pistol grip or the press-to-talk button on the microphone.

Primary power comes from standard flashlight cells, or through a simple adaptor from any external source of 12 or 6 volts, d-c. A full line of accessories is also available; included in these are microphone extension cables, external power adaptor cables, a multi-unit adaptor that permits use of two megaphones and one microphone. *Motorola Communications & Electronics, Inc., Dept. RA, 4501 W. Augusta blvd., Chicago 51* •



Cartridge Bearing

A journal bearing cartridge for freight cars has been developed by Cleveland Graphite Bronze Division of Clevite Corporation. Tested by the AAR and approved for limited application in interchange service, the Clevite bearing cartridge already has 18 months of road service.

The unit is said to be simple to install and to require a minimum of modification using a few standard tools. The main sleeve bearings and two thrust bearings—formed to provide 180-deg arc of contact with journal and collar—are steel-backed lead-base babbitt with a tin alloy.

Two positive seals, a double-lipped oil seal and a dust guard, function independently. The oil seal is made of Buna-N synthetic rubber. A garter spring retains this seal in positive contact around the journal; the sealing edge formed has a double lip. Dust guard of weather resistant neoprene keeps dust and dirt particles away from oil sealing surfaces. Two oil reservoirs hold 1½ pints of oil. The lubricator consists of five hard felt rollers kept in constant contact with the rotating journal. *Standard Car Truck Company, Dept. RA, 332 S. Michigan ave., Chicago 4* •

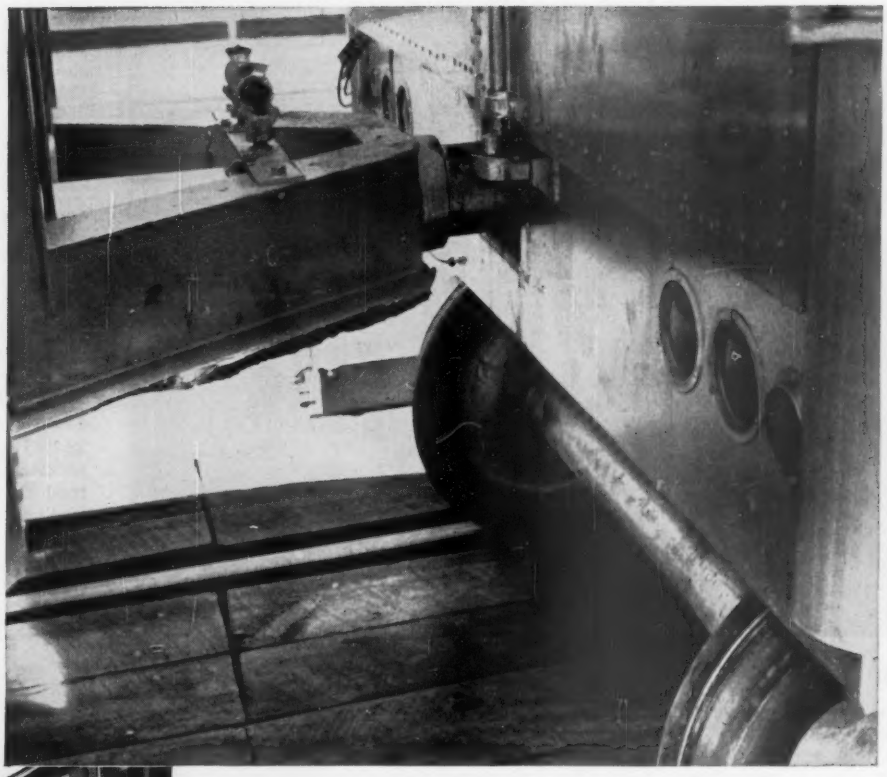
Portable Tape Recorder

Bell & Howell's Model 770 portable tape recorder is a lower-priced, simplified, lighter-weight unit supplementing the Model 775. Model 770 offers two-speed recording, with twin 5¼-in. speakers and fully variable tone and volume controls. Five pushbuttons—stop, forward, rewind, play and record—control operation. The recorder may be operated at 3¾- or 7½-in.-per-sec; a neon indicator lamp tells when proper level is being used. *Bell & Howell, Dept. RA, 7100 McCormick road, Chicago 45* •

Erect-It-Yourself Buildings ►

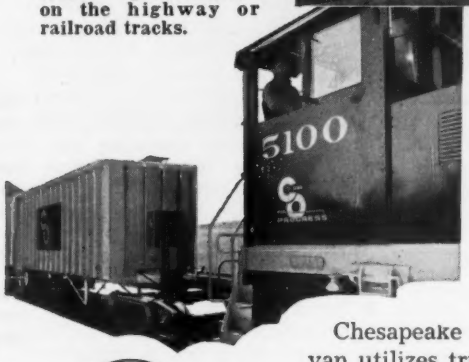
The "Stran-Master" line of all-steel pole-type buildings is designed to permit "do-it-yourself" construction of utility buildings. The manufacturer states that no cranes or heavy equipment are needed for erection and that all framing connections are made through factory-drilled holes. Steel columns are telescopic and adjustable and a sliding girt arrangement speeds erection work. They range in width from 12 to 120 ft and in length to any multiple of 16 ft. *Stran-Steel Corporation, Dept. RA, Detroit 29* •





Yoloy "E" high strength-low alloy steel provides required strength with less weight to the Railvan's underframing. Coupled view is shown at right.

C & O's new Railvans shown below — with combination highway and railroad wheels mounted on a single spring suspension system — operate either on the highway or railroad tracks.



C & O USES YOLOY "E" IN "FIRST" RAILVAN

Chesapeake and Ohio's new Railvan utilizes truck trailers that operate either as long trains on railroad tracks or as single units on highways. Such equipment employs a unique combination of railroad and highway wheels mounted on a single spring suspension system.

Hot Rolled Yoloy "E" Sheets and Plates—fabricated by Binkley Manufacturing Co. and Visioneering Company of Cleveland—form the rugged underframe required for railroad rolling stock. The tubular center sill was produced from 5½" A.P.I. Drill Pipe.

Youngstown's family of Yoloy steels are produced to meet a wide range of applications, where high strength and corrosion resistance are of prime importance. Call us today for a Youngstown Service Engineer to discuss your problem. Free Yoloy literature is available.

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Chicago Traffic Club Hits Half-Century Mark

Officers of the Traffic Club of Chicago surround the club's "birthday" cake during a celebration in commemoration of the organization's 50th anniversary. Left to right are First Vice-President Walter N. Saaby, director of traffic, Victor Chemical Works; Treasurer Ray P. DeGroote, general western freight agent, Luckenbach Steamship; Second Vice-President Carl M. Gautwick, general freight agent, NP; and President Carl H. Groninger, freight traffic manager, B&O.

(*Continued from page* 10)

nections, prompt switching at origin and destination, and proper notification to the consignee of delays.

"There are so many factors that can cause deviation that we do not, generally, rate a carrier's performance on the departure from normal of individual shipments," a pharmaceutical shipper stated. "In the overall picture, we judge a carrier's performance by the per cent of time he does maintain schedule. In effect we run a quality control check of the services we are receiving."

This shipper considered anything less than 85% adherence to schedule as unsatisfactory service.

No survey results, it goes without saying, can apply to all situations. Railroads, as common carriers, also have to try to satisfy the shipper who noted "A shipper more distant from a customer than his competitors rarely finds these customers tolerant of anything but the fastest time. To continue selling such customers takes both speed and reliability."

How to serve both groups was summed up by the general traffic manager of a retail house. "Most carriers evidently believe," he said, "that reliable means routine, reasonable performance year after year, ad infinitum. We believe reliability some day could mean that the carrier is sufficiently alert to shipper's needs and therefore to his volume potential, to change equipment as it is modernized and to tighten time schedules as new devices afford . . . all of this toward enlarging the scope of service to customers, holding old ones and gaining new."

RR 'State' Under Senate Scrutiny

The "deteriorating railroad situation and its effect on the national transportation picture" will be the subject of hearings to be held in January by the Surface Transportation Subcommittee of the Senate Committee on Interstate and Foreign Commerce.

This was announced by the committee's chairman, Senator Magnuson, Democrat of Washington, who gave January 13 as the date for the opening session in Washington. The subcommittee is headed by Senator Smathers, Democrat of Florida.

The latter said witnesses will not be limited in subject matter to be covered, but he suggested three "main areas" for attention as follows:

1. Matters on which railroads may help themselves at present without further action by Congress or the ICC.

2. Desirable changes in ICC policy under existing law.

3. New legislation necessary to insure a sound railroad industry as an integral part of the national transportation system.

"The available statistics," Senator Smathers also said, "indicate that American railroads are heading for serious trouble. Carloadings are down and earnings have declined. Attention should be given to constructive action to allow railroads to help themselves before the situation has deteriorated to the point at which drastic action would be necessary. I believe in the old maxim that an ounce of prevention is worth a pound of cure."

It was explained that "another danger sign" which the senator has in mind, in addition to the carloading and earnings figures, is the decrease in railroad net working capital "from about $880 million in September 1955 to approximately $526 million in September 1957." The statement added that "experts consider $600 million as the minimum safe net working capital necessary for the railroads because railroad cash operating expenses approximate that amount each month."

Other members of the subcommittee are Senators Lausche of Ohio, Yarborough of Texas, Democrats, and Schoeppel of Kansas and Purtell of Connecticut, Republicans.

More Attractive Freight Service Goal of New Group

Formation of a research group that will recommend improvements to railroad freight service to make it more attractive to shippers has been announced.

The group, which will make recommendations based on interviews with shippers and railroad operating and freight traffic officers, is one of three being formed by western lines. The first committee, established in San Francisco to serve Mountain-Pacific area railroads, will have as its chairman G. M. Bruere, formerly executive assistant of the Chicago & North Western.

An advisory committee of railroad traffic vice-presidents will be headed by W. D. Peoples of the Southern Pacific. Sponsoring the group are the SP, the Union Pacific, Santa Fe, Western Pacific, Great Northern, Northern Pacific and the Milwaukee.

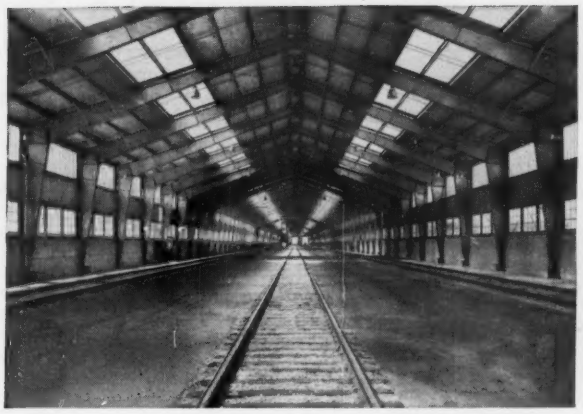
Announcement of formation of committees at Chicago to serve transcontinental railroads, and at St. Louis for western trunk and southwestern lines, is expected soon.

Bus Line Loses Money, Abandons 23-Mile Route

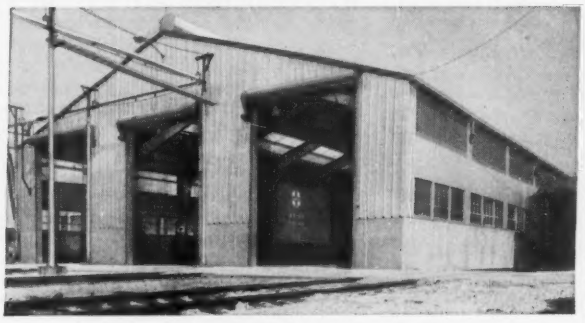
Railroads are not the only carriers with suburban service troubles.

A recent Oregon Public Utility Commissioner order authorizing the Greyhound Corporation to abandon a 23-mile route near Portland included among the findings in the case:

- Oregon local operations of the Western Greyhound Lines Division of the Greyhound Corporation showed a total loss of 7.7 cents per bus mile for the first six months of 1957.
- The route to be abandoned posted



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Now you may not need a super building such as this, but the advantages of quality, usefulness and economy apply whether you use a Butler building for a simple shed or an elaborate terminal-warehouse. For reasons why Butler is your best buy in railroad buildings, call your Butler Builder. He's listed under "Buildings" or "Steel Buildings" in the Yellow Pages. Or write for brochure.

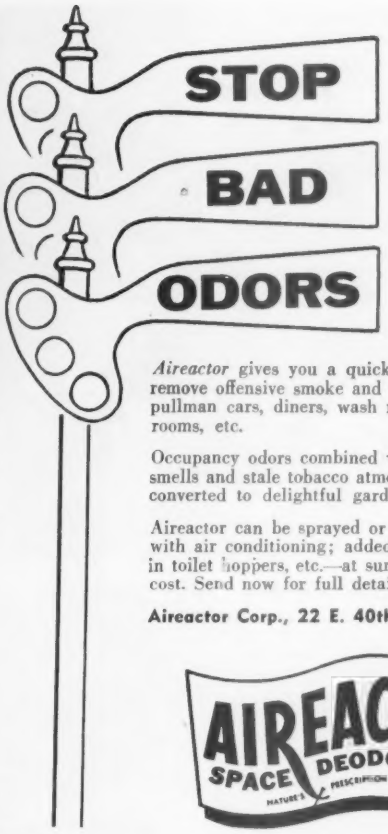
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BOOKS . . .

HANDBOOK OF AMERICAN RAILROADS
by Robert G. Lewis

This new 2nd edition (1956) provides a complete, illustrated data guide to the nation's 113 Class I line-haul railroad carriers. Contains a map of each railroad, prominent train photo, herald, historical sketch, biography of chief officer, financial and operating statistics, and equipment data. The author is publisher of "Railway Age."

251 pp. cloth $4.50

WORLD RAILWAYS
by Henry Sampson

A worldwide survey of railway operation and equipment. Up-to-date details tabulated on 1,470 railroads in 106 different countries, including photos, maps, diagrams. 157 major rail systems are dealt with individually, with new or revised maps, and equipment, financial and traffic statistical data. 1956-57 edition.

502 pp., illus., cloth $20.00

SUPER-RAILROADS FOR A DYNAMIC AMERICAN ECONOMY
by John Walker Barriger

This book, written by one of the nation's ablest and best informed students of railroad transportation, presents a comprehensive working plan for modernization and improvement of service and lowering of costs. The author spells out the tremendous opportunities facing rail transport today and asserts that the brightest challenge and greatest growth are still ahead for the nation's railroads.

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Here's How It's Done on the Long Island

Two visitors from the South Korean Army's Transportation Corps learn from John E. Wainwright, Long Island dispatcher, just how he plots the complicated movements of the road's trains. The visitors, here to attend the U.S. Army's transportation school at Fort Eustis, Va., are Major Youg Chun Ann (left), and Col. See Hyeong Kim. Mr. Wainwright, a former Army captain, was stationed in Korea for more than a year to help run the Korean railroad during the war.

a net loss of 23.2 cents per bus mile, based on out-of-pocket costs, for June.

● "The economic health of a vital and necessary public transportation agency, especially in light of its present overall marginal condition, would be seriously endangered if it were forced to continue to operate such grossly non-paying segments as the one in question."

Service over the route to be abandoned involved two schedules daily each way, between Forest Grove and McMinnville, including intermediate points

In granting Greyhound's petition, the Oregon commissioner noted that "If this loss were merely marginal it would raise a doubt as to the wisdom of allowing an abandonment. However, the loss here is so gross as to be too great a burden on the carrier when considered with the overall picture where difficulty is experienced in providing local services in Oregon generally. The paramount public interest dictates that this application should be granted under these compelling circumstances."

Traffic Man Boosts 'Symes Plan'

The so-called Symes plan is not subsidy, an eastern traffic officer says.

"I cannot read even in the broadest interpretation" where the bills introduced in Congress to effectuate the plan ask for any subsidy, J. Robert Morton told the Central Western Shippers Advisory Board.

Mr. Morton, president of the Atlantic States Shippers Advisory Board, reviewing recent railroad difficulties in the money market, said:

"It may well be that the time has come when rail carriers should look to government to help in a transitory period in financing and supplying the shipping public with the much needed equipment. It appears to me that if the carriers are not given help under this leasing plan, and another period of severe car shortages comes upon us, we may find the cries in Congress much louder than they have been for nationalization because the carriers have not been able financially to buy and supply shippers with the needed equipment."

Among advantages of the leasing plan cited by Mr. Morton are:

● "It will not cost the government anything, as contrasted to the subsidies which are handed out to other segments of the transportation industry."

● It will assure that the railroad industry "will be maintained in first class condition, prepared for an emergency, and it also provides a stockpile of equipment."

● "The economy as a whole should benefit from such leasing, as it will assure a placement of orders for new equipment and, with such assurance, car builders will be able to run production lines at constant levels, which may stabilize the price of the equipment through production savings, even though inflationary trends continue."

● "Overall, the simplicity of the plan has much to recommend it, together with another important fact. It is possible to work it out on a completely voluntary basis. It is not necessary for all railroads to approve the plan or to participate in it. It need only be used by that segment of the industry which feels it does not have sufficient capital to invest in new equipment."

● "If railroads can lease equipment . . . substantial amounts of cash now going toward down payments of equipment will be released and that cash can be used for such improvements as centralized traffic control, electronic yards and improvements to roadway and structures. Wtih a modernized plant, the railroad industry should operate more efficiently and the public would be assured of the finest in mass transportation at the lowest possible cost."

Leasing, Mr. Morton added, "is not the only answer. . . . It is one plan of many." He cited another current proposal—that of penalty per diem—as a means of requiring roads to boost car ownership levels within a reasonable time.

Eleven Eastern Roads Seek Fare Increase

Eleven eastern railroads are seeking to increase their coach fares by 5% effective January 1, 1958. Tariffs on that basis were being filed with the ICC last week.

The increases would raise both one-

(*Continued on page* 60)



And It Doesn't Hurt a Bit!

Two Los Angeles railroaders — A. J. Lacombe (center), New York Central district freight sales manager, and H. Brad Atwood, Southern Pacific assistant public relations manager — recently toured Rancho los Amigos to learn about the hospital's extensive polio center in preparation for their work as voluntary leaders of the annual March of Dimes campaign in January. On the tour they got polio shots from Dr. Donna M. Barras, staff physician. Mr. Atwood is chairman of the drive's commerce and industry division, and Mr. Lacombe heads the utilities section.

Current Publications

FROM THE MANUFACTURERS

MAINTENANCE GUIDE. 24 pages, color, illustrations, diagrams. Available in English, French, German, Spanish and Portuguese from Caterpillar dealers or by requesting Form No. 32395 from Advertising Division, Dept. RA, Caterpillar Tractor Company, Dept. RA, Peoria, Illinois.

Caterpillar's maintenance guide for Cat D7, D8 and D9 tractors is a narrative, with cartoon-type drawings, illustrating hints for obtaining optimum service life from Cat-built equipment.

•

MOTION PICTURES PREPARED AND DISTRIBUTED BY UNITED STATES STEEL. 27 pages. United States Steel Corporation, Dept. RA, 525 William Penn Place, Pittsburgh 30. Free.

Describes educational and entertaining motion pictures sponsored and distributed by USS, and explains conditions under which they are loaned.

•

ATTACHMENTS. 8 pages, illustrated, color. Form No. DE754, Advertising Division, Dept. RA, Caterpillar Tractor Company, Peoria, Ill.

Caterpillar's new brochure lists many of the prime mover tools available for Cat equipment, along with a check list to aid in selection of the proper tool for particular operations.

•

P-S FREIGHT CARS AND PARTS. 24 pages, color, illustrations. Pullman-Standard Car Manufacturing Co., Dept. RA, 321 North La Salle st., Chicago 1.

Contains descriptions and specifications of the PS-1 box car, the PS-2 covered hopper car, the PS-3 hopper car, the PS-4 flat car, and the PS-5 gondola, with similar data also on P-S freight car parts—sides, ends, roofs, floors, underframes, doors, side bearings, floor clips, etc.

NEW PERIODICALS

THE EXECUTIVE—A GUIDE TO READING FOR TOP MANAGEMENT. Monthly. Baker Library, Harvard University Graduate School of Business Administration, Cambridge, Mass. 50 cents a copy.

This publication is designed as a presentation form for abstracts summarizing the essential features of a wide range of books, pamphlets, speeches and periodical articles of significance to executives. According to the publishers, selections will be oriented toward giving a broader background of social, political, economic and business problems of the day. The abstracts average 300 to 500 words each.

PAMPHLETS

BULLETIN NO. P-441, LIST OF PREVENTION BULLETINS—REVISED. Association of American Railroads, Operations and Maintenance Department, Freight Loss and Damage Prevention Section, 59 East Van Buren st., Chicago 5.

Bulletin No. P-441 lists all prevention bulletins issued by the section since April 1, 1952.

•

PRELIMINARY REPORT ON 1957 TRAVEL SURVEY, prepared by Donald E. Church, Chief, Transportation Division, Bureau of the Census. 54 pages, tables. Bureau of the Census, Washington 25, D.C. 40c.

COATED ABRASIVES. Data Sheet D-425. Available from National Safety Council, 425 North Michigan Ave., Chicago 11, Ill.

NSC's data sheet includes precautions and hazards connected with use of coated abrasives, plus tips on how to use belt, disk and drum sanders.

BOOKS

DIRECTORY OF RAILWAY OFFICIALS & YEAR BOOK, 1957-1958, compiled from official sources under the direction of the editor of the Railway Gazette. 534 pages. Tothill Press Limited, 33 Tothill St., Westminster, S.W. 1, London. 40 shillings.

The entries for the British Transport Commission, its divisions and the various regions of the British Railways have been enlarged in this volume to include more officers and additional information; for example, entries for the individual regions now give mileage and rolling stock particulars.

In the statistical section the most drastic revision has been in the list of principal electrically operated railways. Sweden is now represented by full details; many more details are given for Brazil; and Egypt, Jugoslavia, Luxembourg and Portugal have been added. The tables of world railway mileage and long railway tunnels have been amplified and brought up to date, and a new article has been included on the progress of diesel railway traction. There is a general index and a personnel index.



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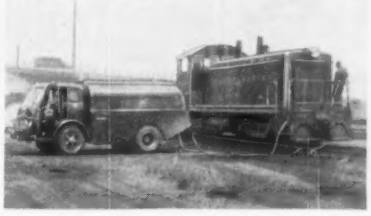
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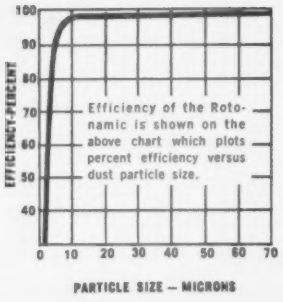
Refueling in progress at yard location



Farrell unit shown resanding locomotives

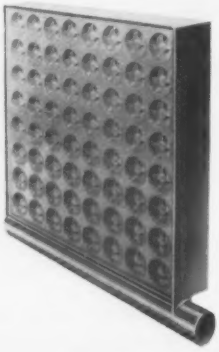


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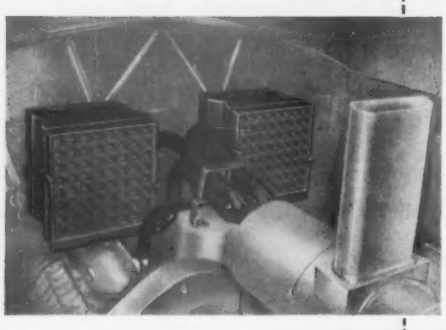
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MARKET OUTLOOK *at a glance*

Freight Car Loadings

Loadings of revenue freight in the week ended November 23 were not available when this issue of Railway Age went to press.

Loadings of revenue freight for the week ended November 16 totaled 647,298 cars; the summary, compiled by the Car Service Division, Association of American Railroads, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, November 16

District	1957	1956	1955
Eastern	99,256	121,817	127,508
Allegheny	126,048	147,859	150,790
Pocahontas	58,116	64,078	61,316
Southern	116,055	129,487	136,433
Northwestern	79,755	113,158	105,071
Central Western	121,423	130,389	126,241
Southwestern	46,645	57,110	58,857
Total Western Districts	247,823	300,657	290,169
Total All Roads	647,298	763,898	766,216
Commodities:			
Grain and grain products	50,064	52,611	52,772
Livestock	9,234	11,461	11,903
Coal	127,595	145,878	145,199
Coke	9,429	12,741	13,213
Forest Products	35,063	43,590	41,080
Ore	37,314	65,060	60,879
Merchandise l.c.l.	50,165	57,821	63,381
Miscellaneous	328,434	374,736	377,789
November 16	647,298	763,898	766,216
November 9	675,273	772,850	792,042
November 2	713,994	800,367	804,261
October 26	703,688	816,803	829,648
October 19	726,812	828,741	829,078
Cumulative total, 56 weeks	32,092,443	33,801,189	33,571,754

IN CANADA.—Carloadings for the seven-day period ended November 14 totaled 78,161 cars, compared with 84,380 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
November 14, 1957	78,161	29,007
November 14, 1956	85,561	33,614
Cumulative Totals:		
November 14, 1957	3,588,869	1,437,284
November 14, 1956	3,900,749	1,522,788

New Equipment

FREIGHT-TRAIN CARS

► *Milwaukee.*—Ordered 55 70-ton gondola cars, Bethlehem Steel, and 50 70-ton "Airslide" covered hopper cars, General American.

► *October Deliveries Up, Orders Down.*—New freight cars delivered in October totaled 8,295, compared with 5,666 in October 1956, ARCI and AAR report; new cars ordered in October totaled 2,206, compared with 6,532 in comparable 1956 month; September 1957 orders and deliveries were, respectively, 3,527 and 8,450; backlog of cars on order November 1 was 65,718, compared with 71,981 on October 1 and 122,250 on November 1, 1956.

Type	*Ordered Oct. '57*	*Delivered Oct. '57*	*On Order Nov. 1, '57*
Box—Plain	905	2,748	16,391
Box—Auto	0	0	500
Flat	6	16	2,820
Gondola	750	1,083	13,214
Hopper	125	2,447	21,355
Covered Hopper	200	746	4,481
Refrigerator	0	307	1,932
Tank	70	520	4,442
Caboose	0	4	121
Other	150	424	462
TOTAL	2,206	8,295	65,718
Car Builders	526	4,817	27,460
Company Shops	1,680	3,478	38,258

LOCOMOTIVES

► *Illinois Central.*—Ordered 70 GP-9 1,750-hp road switchers, Electro-Motive; estimated cost $12.5 million; delivery by February 1, 1958; order will permit almost complete dieselization of IC, with exception of small amount of local freight and switching service in isolated, outlying areas.

► *Milwaukee.*—Ordered 10 1,750-hp road switchers, Electro-Motive.

► *1,075 New Units Installed in First Ten Months.*—Class I railroads installed 1,075 new locomotive units (1,071 diesel-electrics and four electrics), in first ten months of 1957, compared with 1,221 units (1,218 diesel-electrics and three electrics), in comparable 1956 period, AAR reports; new locomotive units on order November 1 totaled 295 (265 diesel-electrics and 30 gas turbine-electrics), compared with 728 (704 diesel-electrics, 15 gas turbine-electrics and 9 electrics), on order November 1, 1956.

Maintenance Expenditures

► *Up 3.3% in September.*—Expenditures by Class I roads for maintenance of equipment, way and structures in September were up $8.9 million, compared with same month last year, according to report of ICC Bureau of Transport Economics and Statistics summarized below:

	September '57	*September '56*	*% Increase*
Maintenance of Way & Structures	$121,602,828	$115,370,124	5.4
Maintenance of Equipment	154,770,935	152,101,099	1.8
Tota'ls	276,373,763	267,471,223	3.3

a RAILWAY AGE time-saver page



New 'Phone System Speeds BRC Communications

The new dial telephone system of the Belt of Chicago—cut in in a split-second operation, without interruption of a single call—is part of the road's drive to speed traffic through Chicago. The system is housed in a new two-story brick building which serves as the road's telephone center. E. C. Harvey (center), BRC general superintendent, is shown placing the first call, to L. A. Evans, the road's president and general manager. With Mr. Harvey are G. J. Curran (left), service engineer, Illinois Bell Telephone Company; and Robert W. Johnson, of Bell.

(*Continued from page* 56)
way and round-trip coach fares by 5%. They would increase basic coach rates on the 11 roads from 3.7212 cents to 3.906 cents per mile. They would also raise minimum one-way fares from 26 cents to 30 cents.

The 11 roads are Pennsylvania, New York Central, Lehigh Valley, Reading, Central of New Jersey, New Jersey & New York, Pennsylvania-Reading Seashore Lines, Wabash, Pittsburgh & Lake Erie, Monon, and Chicago South Shore & South Bend.

M&StL Studies Wider Use of TV

The Minneapolis & St. Louis is studying the possibility of stringing coaxial cable along its entire line, not only for communications but to provide for television in yards or key points.

The idea is to permit dispatchers to follow progress of trains more carefully, and centralize the direction of all yard operations under a single general yardmaster at one point.

A. W. Schroeder, president of the road, mentioned this possibility in outlining future plans of the M&StL to the New York Society of Security Analysts.

Other plans the road is considering, according to Mr. Schroeder, include the use of 300-car sidings to eliminate intermediate yards; pipelines or pneumatic tubes to carry grain to the road's new barge port at Keithsburg, Ill.; and a coal pipeline from Middle Grove, Ill., to Keithsburg or Peoria.

"The use of transistor type equipment at key yards, freight houses and important stations to transmit information direct from source documents to punched cards is already being planned," Mr. Schroeder added.

The M&StL recently trimmed one hour off its former 17-hour schedule between Minneapolis and Peoria. Mr. Schroeder pointed to this move as reflecting the continuation of the road's big rebuilding program—a program that now embraces a new officer team, more units of maintenance accomplished at less labor cost, improved signals and communications, more effective utilization of motive power, improved car repair, better track and bridges and the use of data-processing equipment to keep management informed on day-to-day operations.

The track department, for example, was completely reorganized in April 1956, Mr. Schroeder pointed out. The number of sections dropped from 115 to 61, and five ten-man track gangs were set up and equipped with power machines. The saving in manpower during the maintenance season amounted to about 250 men—one-third the former track force—but the same units of maintenance were put into the track that first year.

Under a cycling program for tieing and surfacing of 90 miles of main track annually, the new gangs will cover the entire Minneapolis-Peoria line once every five years.

In the mechanical department, the road has unified all heavy locomotive repairs at Cedar Lake shops and a second shop at Marshalltown has been converted into a heavy car repair shop. This new car shop, beginning December 1, is expected to reduce the labor cost of heavy repairs by more than $300 per car.

Supply Trade

Robert H. Weeks, Jr., general sales manager of **Edison Storage Battery Division** of **Thomas A. Edison Industries,** has been appointed assistant division manager. **William W. Gould,** Cleveland district manager, has been transferred to Chicago as district manager and has been succeeded at Cleveland by **Elmer W. Ahlstrom,** field engineer there. **Jerome V. Huth,** assistant manager, export department, at New York, has been named manager of that department, succeeding **Charles H. Maxham,** retired.

Albert J. W. Novak has been appointed assistant to president for sales and marketing of **Ansonia Wire & Cable Company,** at Ashton, R.I. He was previously vice-president and general manager of the Texas Division of **Brush Electronics Company Division** of **Clevite Corporation.**

Clarence T. Janik, sales manager of **Kysor Heater Company,** Cadillac, Michigan, has been promoted to vice-president.

Crucible Steel Company of America has appointed **Lester C. Hill** assistant sales manager of its Pittsburgh Crucible Sales Division, at Pittsburgh. He had previously been sales manager of the Vulcan Crucible Steel Division of **H. K. Porter Company.**

Ralph L. Hitz has been appointed sales and service engineer for the **Tri-Belt Division** of **Sparton Corporation,** Jackson, Mich.



Albert J. W. Novak



Clarence T. Janik



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People in the News

ATLANTIC COAST LINE.—**Lawrence Thomas Oliver,** assistant to president, **Richmond, Fredericksburgh & Potomac,** Richmond, Va., appointed administrative assistant to president, ACL, Wilmington, N.C.

CANADIAN NATIONAL.—**Peter B. Wilson** appointed chief of operational research, Montreal, Que. Since 1954, Mr. Wilson has served the Defense Research Board as director of operations research for the Canadian Army and Navy.

CHARLESTON & WESTERN CAROLINA.—**T. C. Herndon,** roadmaster, Augusta, Ga., appointed engineer maintenance of way there.

CHESAPEAKE & OHIO.—**Walter F. Kruse,** district freight agent, Cleveland, Ohio, retired November 30 and that position abolished. **Robert H. Burgin** named general agent, Cleveland, succeeding to duties of Mr. Kruse.

E. M. Michie appointed manager of pensions and group insurance, Cleveland, and will continue serving as secretary to retirement committee.

Seldon Plumley named trainmaster, Peninsula subdivision, Richmond.

G. P. Gibbs, general manager power and car utilization, Huntington, W. Va., retired November 1. **W. F. Stone** appointed manager power and car utilization, Huntington.

John P. Ganley, assistant to treasurer, Cleveland, promoted to assistant treasurer there.

CHICAGO & NORTH WESTERN.—**Edwin A. Olson,** general traffic and warehousing manager, Libby, McNeill & Libby, elected vice-president in charge of traffic, C&NW, Chicago, effective December 1, to succeed **Thomas L. Norton,** named assistant to president on traffic research.

Earl S. Peterson, sales agent, named to head the trailer and merchandise division, Minneapolis-St. Paul office, succeeding **V. A. Nelson,** placed in charge of the Rail-Trailer Motor Carrier Operation, Twin City district, St. Paul.

CHICAGO RAIL TERMINAL AUTHORITY.—Chicago city council has approved appointment of seven members to this group which was set up earlier this year by the Illinois General Assembly to plan and develop a consolidated railroad terminal for the city. The seven appointees are: Chairman, **James A. Cunningham,** partner in Glore, Forgan & Company; **William L McFetridge,** general president, Building Service Employees International Union; **Roy Tuchbreiter,** chairman, Continental Casualty Company and Continental Assurance Company; **Holman D. Pettibone,** chairman, Chicago Title & Trust Co.; **Robert E. Wood,** retired chairman, Sears, Roebuck & Co.; **Dr. John T. Rettaliata,** president, Illinois Institute of Technology; and **Virgil E. Gunlock,** chairman, Chicago Transit Authority.

DENVER & RIO GRANDE WESTERN.—**J. W. Sample** appointed general agent, Kansas City, Mo., succeeding the late **W. D. Fernald.**

GREAT NORTHERN.—**R. N. Whitman,** assistant general manager, appointed general manager, lines east of Bainville, Mont., with headquarters as before at Duluth, Minn., succeeding the late **Challence O. Hooker** (Railway Age, Nov. 18, p. 50).

GULF, COLORADO & SANTA FE.—**H. C. Griffith,** supervisor of wage agreements, appointed assistant to general manager, Gulf Lines, Galveston, Tex., succeeding **F. J. Brownell,** who retired October 31. **W. S. Kennedy** named to succeed Mr. Griffith.

LEHIGH VALLEY.—**A. K. Thomas,** export and import agent, New York, promoted to foreign freight traffic manager there, succeeding the late **W. H. Lancton. M. G. Spang,** commercial agent, foreign freight department, New York, named foreign freight agent.

MERIDIAN & BIGBEE.—**Marvin V. Dendy,** assistant superintendent, appointed superintendent, Meridian, Miss.

MILWAUKEE.—**P. Bridenstine,** trainmaster, Horicon, Wis., transferred to Terre Haute, Ind., to succeed **F. A. Barton,** named trainmaster, Bensenville, Ill., replacing **R. L. Towell,** transferred to Horicon to succeed Mr. Bridenstine.

MINNEAPOLIS & ST. LOUIS.—**Robert W. Christie,** assistant general freight agent, Des Moines, promoted to freight traffic manager, St. Louis, succeeding **T. E. Keating,** placed in charge of the Dallas agency. **C. W. Newland,** general agent, Detroit, promoted to general freight agent, Des Moines, taking over Mr. Christie's former duties. **Raymond Blunck,** general agent, Dallas, named assistant general freight agent, Detroit, succeeding to Mr. Newland's former duties.

MISSOURI-KANSAS-TEXAS.—**Dan M. Welch,** general attorney, appointed general counsel, Denison, Tex., succeeding **Wayne R. Howell,** who retired November 15.

J. P. Ganley, general freight agent (rates), St. Louis, appointed assistant freight traffic manager there, succeeding **Vernon Gaston** who retired November 30. **C. R. Dimmitt** appointed assistant general freight agent, St. Louis, succeeding **W. W. Duckworth,** who replaces Mr. Ganley.

NATIONAL MEDIATION BOARD.—**Thomas A. Tracy,** headquarters mediator, Washington, D.C. office, appointed assistant executive secretary of the board, succeeding **Mitchel D. Lewis,** who retired October 6. **Raymond R. Hawkins,** mediator, succeeds Mr. Tracy. **Luther G. Wyatt** appointed to the board's staff of mediators. Mr. Wyatt was formerly with the **Ogden Union Railway & Depot Company,** Ogden, Utah.

NEW HAVEN.— **Paul J. Connery,** assistant comptroller, elected comptroller, New Haven, Conn., succeeding **J. J. O'Neill,** elected vice-president—planning and control.

NEW YORK CENTRAL.—**J. C. Kenefick,** general manager, New York district, assigned to a special system study at New York, a temporary assignment requiring his full time for an indefinite period. **C. B. Fleming,** superintendent, Weehawken, N. J., appointed acting general manager, New York district, New York.

NORTHERN PACIFIC.—**J. G. Mattson** appointed division storekeeper, Lake Superior division, Duluth, Minn., succeeding the late **A. W. Schneider.**

NORTHERN PACIFIC-SOUTHERN PACIFIC.—Chicago freight and passenger offices of these roads will be moved to the Marquette Building, 140 South Dearborn street, from 310 South Michigan avenue, at the end of the year. The NP will continue its passenger ticket office after the move; the SP's ticket office was closed last July.

PENNSYLVANIA.—**C. R. McKenna** appointed supervisor-transportation engineering, Northwestern Region, Chicago.

The PRR will open a new passenger ticket office December 2 on the mezzanine floor, International Building, Rockefeller Center, 630 Fifth avenue, New York, with **Walter J. Sauers,** city ticket agent, in charge. This office will replace the city ticket office at 3 West 47th street, shared with other roads, which was closed at noon, November 29.

Dr. A. W. Hoover appointed regional medical officer, Northern region, Buffalo, N.Y.

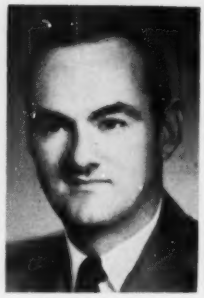
RICHMOND, FREDERICKSBURG & POTOMAC.—**Lawrence B. Cann, Jr.,** division engineer, Richmond, Va., appointed chief engineer there, succeeding the late **James C. DeJarnette, Jr.** (Railway Age, Nov. 25, p. 42).



Edwin A. Olson
C&NW



R. N. Whitman
GN



Paul J. Connery
New Haven



Harland F. Moy
SP&S

Charles E. Mervine, Jr., director of personnel, Richmond, elected also assistant secretary and assistant treasurer, succeeding **L. T. Oliver,** resigned to become administrative assistant to president, **Atlantic Coast Line,** Wilmington, N.C.

SOUTHERN.—**Robert D. Darden,** assistant freight traffic manager, Asheville, N.C., promoted to freight traffic manager of this system and its affiliated line, the **Atlantic & East Carolina,** at New Bern, N.C. **James E. Jerritt,** general agent of the A&EC, promoted to general agent, Southern system and A&EC, remaining at New Bern. **Cecil Moore,** traffic manager, A&EC, named division freight agent, Southern system and A&EC, remaining at Kinston, N.C. **Robert C. Courtney,** assistant freight traffic manager, Raleigh, N.C., transferred to Asheville, N.C., succeeding Mr. Darden. **Marshall H. Schell,** division freight agent, Raleigh, promoted to assistant general freight agent there.

Frank M. Kaylor, division engineer, Charleston, S.C., transferred to Greensboro, N.C., succeeding **Robert K. Seals,** transferred to Columbia, S.C. **James M. Peek,** assistant division engineer, Knoxville, Tenn., promoted to division engineer, Selma, Ala.

Jackson S. Anderson, trainmaster, Macon, Ga., transferred to Mobile, Ala. **O. J. Thomas,** assistant trainmaster, Columbia, promoted to trainmaster, Selma, succeeding **Victor E. Williams,** named track supervisor, Batesburgh, S.C. **W. Hoyt Sayne** appointed terminal trainmaster, Chattanooga, Tenn. **W. Harold Wood** and **Joe Barrett, Jr.,** appointed terminal trainmasters at Birmingham, Ala.

SPOKANE, PORTLAND & SEATTLE.—**Harland F. Moy,** assistant chief engineer, Portland, promoted to secretary and chief engineer there, to succeed **Carl F. Thomas,** who retired November 1 after 43 years' service. **G. E. LaSalle, Jr.,** assistant engineer of structures, Portland, promoted to principal assistant engineer, and is replaced by **Donald D. Thomas,** resident engineer, Celilo Bridge, The Dalles, Ore.

OBITUARY

Charles G. Grove, 67, who retired in July, 1957 as area engineer—construction, **Pennsylvania,** at Chicago, died November 18 in St. Francis Hospital, Evanston, Ill.

Technical Tidings

Selected from December Railway Monthlies

Radio maintenance is one of the most important factors in successful operation of railroad radio systems. How the Reading maintains its radio, and the important pegboard showing locations of individual units, are discussed in Railway Signaling and Communications.

●

New turnouts to be installed on the Santa Fe are carefully "packaged" at a central point and shipped, two to a car, to the point of installation. This assures that all required materials will be on hand when needed. Also, installation is easier because of preassembly of some parts and because much field cutting and drilling of rail is eliminated. The practice is described in Railway Track & Structures.

●

Glass banding for traction motor armatures will eliminate the magnetic effects of steel banding wire, should reduce the costs, improve insulating values, and increase armature coil life. The Milwaukee already has in service 50 traction motors banded this way, and is adding two more each week. Armature banding failures, should they occur, would be much less troublesome than with the present standard arrangement. Equipment, materials and methods are detailed in Railway Locomotives and Cars.

●

Underground cable can be protected from corrosion and foreign currents by the application of cathodic systems which put direct current into the ground surrounding the cable. To learn more about these systems, what they are and what they can do, an AT&T engineer has written a special article for Railway Signaling and Communications.

●

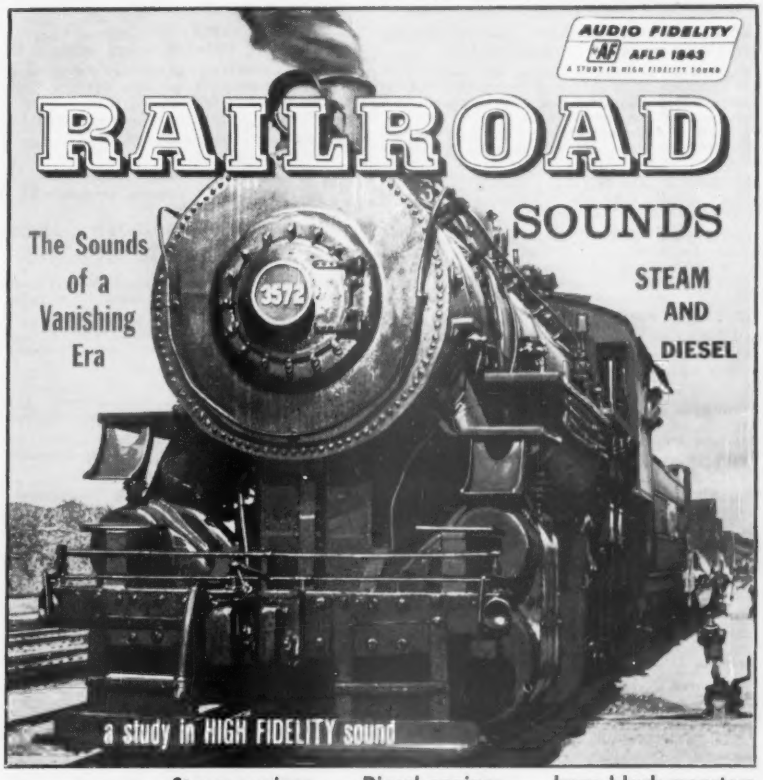
Recent developments in pile driver accessories are discussed in Railway Track & Structures. Advances in leads, cranes, pile-driving rigs, steam generators, air compressors, earth drills and jetting equipment are described. Pile hammers were dealt with in the first installment of this two-part article.

●

Winter time construction practices made for smooth installation of new signaling on the Canadian National's new double track mainline near Cornwall, Ont. Railway Signaling and Communications tells all about the new line, which was built north of the old main. The latter will be flooded as a result of new dam construction in connection with the St. Lawrence Seaway.

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Facts & Figures *at a glance*

Financial

Dividends Declared

ALBANY & VERMONT.—$1.25, payable December 15 to holders of record November 1.

ATLANTA & WEST POINT.—$2, payable December 20 to holders of record December 10.

ATLANTIC COAST LINE.—50¢, quarterly, payable December 13 to holders of record November 1.

BALTIMORE & OHIO.—common, 50¢ extra, payable December 30 to holders of record December 3; common, 25¢, quarterly (reduced), preferred $1, quarterly, both payable next March 20, June 20, September 19 and December 19 to holders of record, respectively, February 21, 1958, May 23, August 22 and November 28.

BESSEMER & LAKE ERIE.—$3 preferred, $1.50, semiannual, payable December 2 to holders of record November 15.

CHESAPEAKE & OHIO.—common, $1, quarterly, payable December 20 to holders of record December 2; 3½% preferred, 87½¢, quarterly, payable February 1, 1958, to holders of record January 7, 1958.

CHICAGO, AURORA & ELGIN.—$2, liquidating, paid November 15 to holders of record November 5.

CHICAGO & EASTERN ILLINOIS.—25¢, quarterly, payable December 30 to holders of record December 10.

CHICAGO, ROCK ISLAND & PACIFIC.—67½¢, quarterly, payable December 31 to holders of record December 13.

CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS.—$1.25, quarterly, paid October 31 to holders of record October 21.

CLEVELAND & PITTSBURGH.—special guaranteed, 50¢, quarterly; 7% regular guaranteed, 87½¢, quarterly, both payable March 3, 1958, to holders of record February 10, 1958.

DELAWARE & BOUND BROOK.—50¢, quarterly, paid November 20 to holders of record November 13.

DENVER & RIO GRANDE WESTERN.—62½¢, quarterly, payable December 16 to holders of record December 6.

EAST PENNSYLVANIA.—$1.50, semiannual, payable January 21, 1958, to holders of record December 31.

ERIE & PITTSBURGH.—guaranteed, 87½¢, quarterly, payable March 10, 1958, to holders of record February 28, 1958.

GREAT NORTHERN.—75¢, quarterly, payable December 16 to holders of record November 21.

GULF, MOBILE & OHIO.—common, 50¢, quarterly, payable December 16 to holders of record November 25; $5 preferred, $1.25, quarterly, payable June 9, 1958, to holders of record May 19, 1958.

ILLINOIS CENTRAL.—75¢, quarterly, reduced, payable December 11 to holders of record November 6.

INTERNATIONAL OF CENTRAL AMERICA.—5% participating preferred, $1.25, accumulation, paid November 15 to holders of record November 6.

KANSAS CITY SOUTHERN.—common, $1, increased, payable December 31 to holders of record November 29; 4% non-cumulative preferred, 50¢, quarterly, payable January 15 to holders of record December 31.

LOUISVILLE & NASHVILLE.—$1.25, quarterly, payable December 13 to holders of record November 1.

MAINE CENTRAL.—5% preferred, $1.25, accumulation, payable December 2 to holders of record November 15.

MASSAWIPPI VALLEY.—$3, semiannual, payable February 1, 1958, to holders of record December 31.

MINNEAPOLIS & ST. LOUIS.—35¢, quarterly, paid November 29 to holders of record November 15.

MISSOURI PACIFIC.—Class A common, 60¢, quarterly, payable January 2 to holders of record December 13.

MOBILE & BIRMINGHAM.—4% preferred, $3, semiannual, payable January 2 to holders of record November 20.

NASHVILLE & DECATUR.—7½% guaranteed, 93¾¢, semiannual, payable January 2, 1958, to holders of record December 20.

NEW YORK CENTRAL.—One share of Reading Company 2nd preferred stock for each 65 shares of NYC common, payable December 20 to holders of record November 15.

NEW YORK, CHICAGO & ST. LOUIS.—50¢, quarterly, payable January 2 to holders of record November 29.

NORFOLK & WESTERN.—90¢, quarterly, 40¢ extra, both payable December 10 to holders of record November 12.

NORTH PENNSYLVANIA.—$1, quarterly, paid November 25 to holders of record November 18.

NORTHERN (NEW HAMPSHIRE).—$1.50, quarterly, paid October 31 to holders of record October 18.

PENNSYLVANIA.—20¢, reduced, payable December 23 to holders of record December 2.

PHILADELPHIA, GERMANTOWN & NORRISTOWN.—$1.50, quarterly, payable March 4, 1958, to holders of record February 20, 1958.

PHILADELPHIA & TRENTON.—$2.50, quarterly, payable January 10, 1958, to holders of record December 31.

PITTSBURGH & WEST VIRGINIA.—40¢, quarterly, 20¢, extra, both payable December 16 to holders of record November 18.

PITTSBURGH, YOUNGSTOWN & ASHTABULA.—7% preferred, $1.75, quarterly, payable March 3, 1958, to holders of record February 20, 1958.

READING.—4% non-cumulative 1st preferred, 50¢, quarterly, payable December 12 to holders of record November 21.

RUTLAND.—5% preferred, $1.25, accumulation, payable December 30 to holders of record December 10.

SOUTHERN.—common, 70¢, quarterly; 5% non-cumulative preferred, 25¢, quarterly, both payable December 13 to holders of record November 15.

SOUTHERN PACIFIC.—75¢ quarterly, payable December 16 to holders of record December 2.

ST. LOUIS-SAN FRANCISCO.—37½¢, payable December 16 to holders of record December 2.

TROY & GREENBUSH.—$1.75, semiannual, payable December 15 to holders of record November 30.

VIRGINIAN.—50¢, quarterly, 60¢, extra, both payable December 17 to holders of record December 10.

WESTERN OF ALABAMA.—$5, payable December 20 to holders of record December 10.

WHEELING & LAKE ERIE.—common, $1.43¾, quarterly; 4% prior lien, $1, quarterly, both payable February 1 to holders of record January 10.

865 Railroaders Drew Over $20,000 Pay in 1956

Class I roads reported 865 persons received compensation of more than $20,000 each in 1956, an increase of 94 above the previous year.

The ICC's Bureau of Transport Economics & Statistics reports that these salaries aggregated $28,865,539—an average of $33,371 per person— for the year.

There were 41 persons whose railroad salaries came to more than $70,000—the average here being $88,834 with an aggregate of $3,642,214.

Persons Receiving Salary at Close of Year and Other Compensation During the Year Aggregating $20,000 or More, Years 1946-1956

Year	Number of persons	Aggregate compensation	Average
1946	410	$12,846,018	$31,332
1947	450	14,216,644	31,593
1948	488	15,788,223	32,353
1949	518	16,455,737	31,768
1950	567	18,334,273	32 336
1951	607	20,185,917	33,255
1952	643	21,532,619	33,488
1953	683	22,799,220	33,381
1954	707	23,226,915	32,853
1955	771	25,334,191	32,859
1956	865	28,865,539	33,371

Persons Receiving Salary of $20,000 or More at Close of Year 1956, Classified by Salary Groups (Excludes Other Compensation Received During the Year)

Salary group	Number of persons	Percent	Aggregate salary	Percent
$20,000-$24,999	341	39.84	$7,481,533	26.84
25,000- 29,999	182	21.26	4,899,551	17.58
30,000- 39,999	143	16.70	4,750,670	17.05
40,000- 49,999	95	11.10	4,074,826	14.62
50,000- 59,999	32	3.74	1,659,441	5.95
60,000- 69,999	22	2.57	1,363,832	4.89
70,000 and over	41	4.79	3,642,214	13.07
Total	856	100.00	27,872,067	100.00

New Securities

CHICAGO GREAT WESTERN.—Authorized by ICC to issue not exceeding 9,263 shares of common stock to be distributed as a stock dividend on common stock, on the basis of one share for each 40 shares outstanding or reserved for issuance, payable December 31 to holders of record November 29.

NORFOLK SOUTHERN.—Authorized by ICC to issue not exceeding 20,249 shares of common stock without par value, to be distributed to stockholders as a dividend on the basis of one share for each 20 shares outstanding or reserved for issuance. The stock dividend is payable December 20 to holders of record December 2.

TOLEDO TERMINAL.—Authorized by the ICC to issue not exceeding $6,000,000, principal amount, of its first-mortgage 4¾% bonds, due October 1, 1982, to be sold at 99.167% of principal and accrued interest. Proceeds, together with treasury funds, were used to pay $6,000,000 of its outstanding first-mortgage 4½% 50-year gold bonds, due November 1, 1957.

September Accident Report

The ICC has published its Bureau of Transport Economics and Statistics' preliminary summary of railroad accidents for September and this year's first nine months. The compilation follows:

Item	Month of September 1957	9 months ended with September 1957
Number of train accidents*	314	3,147
Number of accidents resulting in casualties	24	276
Number of casualties in train, train-service and nontrain accidents:		
Trespassers:		
Killed	79	583
Injured	56	486
Passengers on trains:		
(a) In train accidents*		
Killed	..	3
Injured	31	192
(b) In train-service accidents		
Killed	..	10
Injured	117	953
Employees on duty:		
Killed	18	138
Injured	1,183	8,239
All other nontrespassers:**		
Killed	107	990
Injured	311	3,021
Total—All classes of persons:		
Killed	204	1,724
Injured	1,698	12,891

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of more than $750 to railroad property in 1957. Only a minor part of the total accidents result in casualties to persons, as noted above.

** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers*, were as follows:

Persons:		
Killed	108	944
Injured	249	2,533

Organizations

ATLANTIC STATES SHIPPERS ADVISORY BOARD.—104th regular meeting will be held January 22-23 at the Hotel Sheraton, Philadelphia, Pa. Luncheon speaker January 23 will be James M. Symes, president of the Pennsylvania.

BIRMINGHAM TRAFFIC AND TRANSPORTATION CLUB.—The annual election night dinner will be held February 18 in the Dinkler-Tutwiler Hotel, Birmingham, Ala.

MICHIGAN INDUSTRIAL TRAFFIC LEAGUE.—Newly elected officers for the balance of 1957 and 1958 are: President, W. C. Urlaub, Bundy Tubing Company; vice-president, J. B. Flook, E. W. Bliss Company; treasurer, J. E. Laedlein, Wyandotte Chemicals Corporation; executive secretary, B. A. Klukoski, Leonard Refineries, Inc.; and recording secretary, K. Bickel, Lewis Manufacturing Company.

TRAFFIC CLUB OF MINNEAPOLIS.—The 42nd annual dinner will be held December 5 in the Hotel Nicollet, Minneapolis.

TRANS-MISSOURI-KANSAS SHIPPERS BOARD.—Meeting will be held December 5-6 at the Robidoux Hotel, St. Joseph, Mo.

TRANSPORTATION MANAGEMENT PROGRAM.—The Graduate School of Business, Columbia University, has announced that the 1958 Transportation Management Program will be held at Arden House, Harriman (N.Y.) Campus, January 19-24. The program will include: The Traffic Department in Industry; Transportation and Distribution in an Expanding Economy; Economics of Competitive Transportation; Philosophy of the Trends in Regulation; and Developments for the Improved Management of Transportation.

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20
YEARS OF SERVICE
FIGHT INFANTILE PARALYSIS
MARCH OF DIMES

Washington Is Waking Up

Chairman Magnuson of the Senate Committee on Interstate Commerce has announced that his committee will investigate the railroad situation.

Chairman Owen Clarke of the Interstate Commerce Commission, speaking at the recent meeting of the National Defense Transportation Association, gave public recognition of his concern for "the economic status of our nation's railroads and the attendant regulatory situation."

Gordon Gray, Director of Defense Mobilization, has indicated that domestic transportation—in the event of hostilities—will call for a high degree of cooperation by the different types of transportation.

The railroads have been slow in giving heed to the adage that "the wheel that squeaks the loudest gets the grease." All the other wheels of transportation have squeaked louder than the railroads. Hence, they've had all the government attention. However, as indicated above, things are beginning to change.

Chairman Clarke's expression is quite in keeping with the ICC's developing sense of responsibility for the nation's transportation health. Mr. Clarke outlined the nation's chief "transportation problems" as follows:

a. Overcrowded and hazardous streets and highways, and their attendant effect on public transit and mass passenger transportation.

b. The economic status of our nation's railroads and the attendant regulatory situation.

c. The supply of freight cars, their equitable distribution, and the attendant problems in handling traffic.

d. The manner of our competitive separation of the modes of transport and its resultant segmentation of transportation service.

If government would act in accord with the facts in the four areas to which Mr. Clarke directs attention, then "the railroad problem," would quickly become a matter of history.

But, of all these favorable developments, none is more significant than the viewpoint of Gordon Gray. He sees the country split up into segments if it should suffer an atomic attack. Under such conditions, all transport facilities would be severely damaged—and the only way that remaining services could perform effectively would be by collaborating closely with each other.

If such collaboration is going to be necessary in war, then it ought to begin in time of peace. There is no reason, in the public interest, for the existing compartmentalization of transportation. Air, barge, rail and highway carriers should be encouraged to "buy into" each other and to learn how to work with each other, in time of peace. It will take too much time to learn collaboration under combat conditions.

WITCHCRAFT PASSES INTO LIMBO: There are signs that the bogeyman of "railroad monopoly" no longer scares people. It's like witchcraft. In the 17th century people were as scared of witches as most Americans, a few decades ago, were of "railroad monopoly." How real the danger from witches was believed to be is shown by the fact that in Britain alone, in the 17th century, 70,000 of these unfortunates were executed. Then, all of a sudden, people came to realize that there were no witches, and the persecution ceased. "Railroad monopoly" is no less a superstition than witchcraft. It too is on the way out.



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